US 20080176623A1

(19) United States

(12) Patent Application Publication

(10) Pub. No.: US 2008/0176623 A1

(43) Pub. Date: Jul. 24, 2008

Okada

(54) GAMING APPARATUS AND PLAYING METHOD THEREOF

(75) Inventor: **Kazuo Okada**, Tokyo (JP)

Correspondence Address:
NDQ&M WATCHSTONE LLP
1300 EYE STREET, NW, SUITE 1000 WEST TOWER
WASHINGTON, DC 20005

(73) Assignee: **ARUZE GAMING AMERICA, INC**, Las Vegas, NV (US)

(21) Appl. No.: **11/927,124**

(22) Filed: **Oct. 29, 2007**

Related U.S. Application Data

(60) Provisional application No. 60/881,481, filed on Jan. 22, 2007.

Publication Classification

(51) **Int. Cl.**
A63F 9/24 (2006.01)

(52) **U.S. Cl.** **463/17**

(57) **ABSTRACT**

In a gaming machine of the present invention, a player places a bet by operating a gaming terminal for a roulette game displayed on a roulette device, for example. A betting operation of the player at the gaming terminal will not be accepted during a period in which it is not appropriate to accept the bet on the current roulette game in view of a proceeding of the roulette game. The player who is not participating in the roulette game can place a bet in a sub game which is related to a result of the currently proceeding roulette game, during a period in which the betting operation is not accepted.

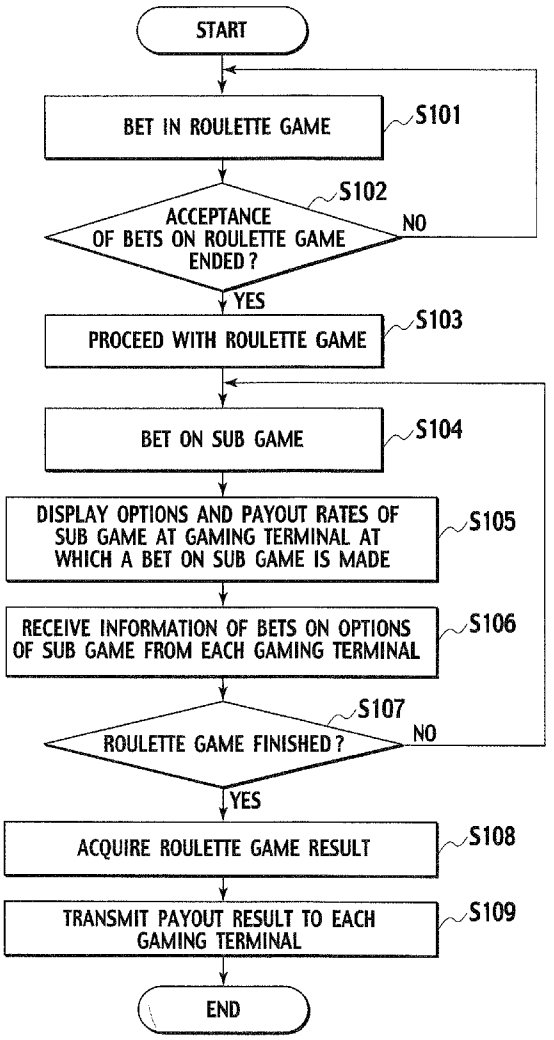


FIG. 1

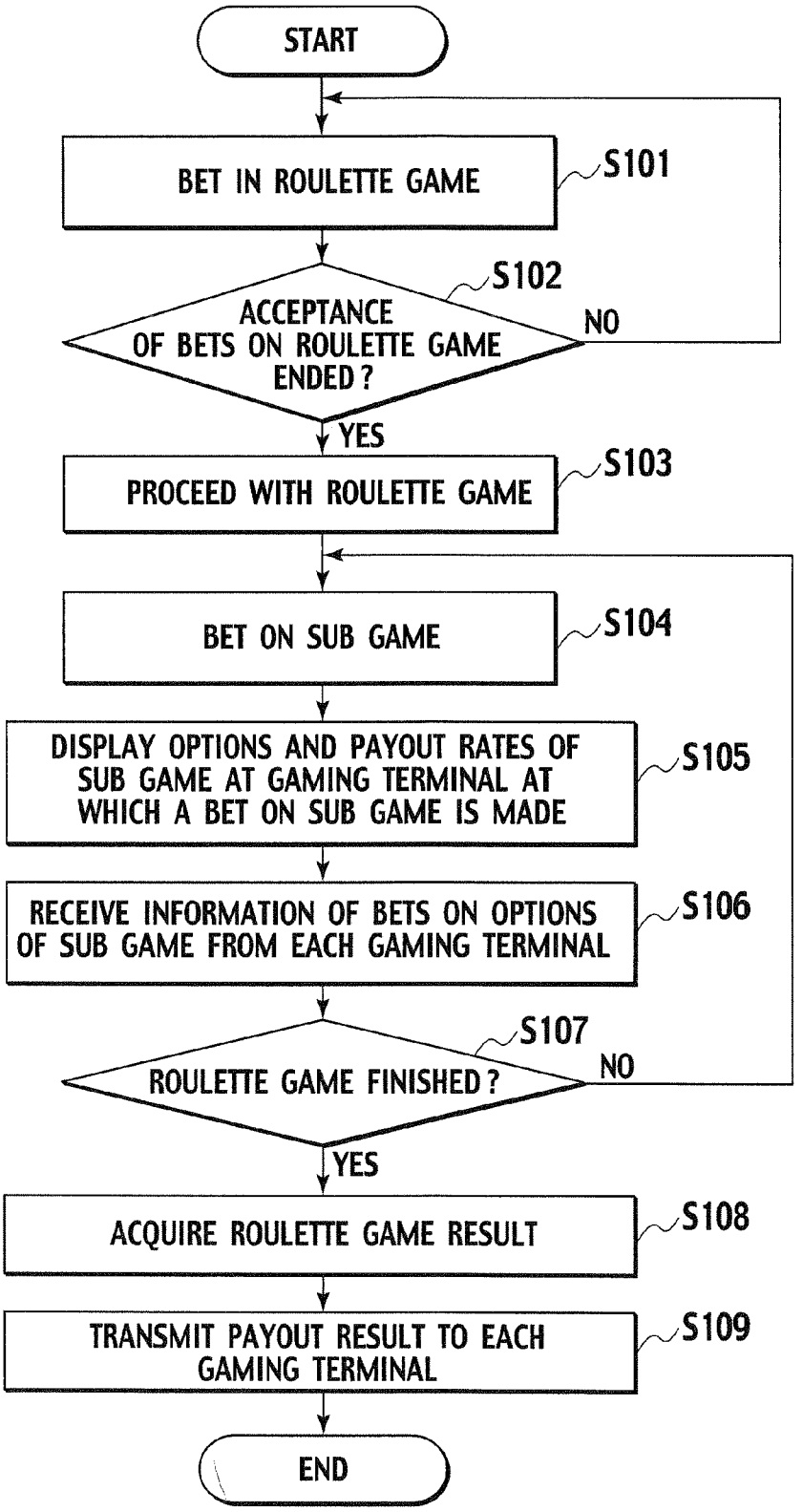

START
BET IN ROULETTE GAME
S101
S102
ACCEPTANCE OF BETS ON ROULETTE GAME ENDED?
NO
YES
PROCEED WITH ROULETTE GAME
S103
BET ON SUB GAME
S104
DISPLAY OPTIONS AND PAYOUT RATES OF SUB GAME AT GAMING TERMINAL AT WHICH A BET ON SUB GAME IS MADE
S105
RECEIVE INFORMATION OF BETS ON OPTIONS OF SUB GAME FROM EACH GAMING TERMINAL
S106
S107
ROULETTE GAME FINISHED?
NO
YES
ACQUIRE ROULETTE GAME RESULT
S108
TRANSMIT PAYOUT RESULT TO EACH GAMING TERMINAL
S109
END

FIG. 2

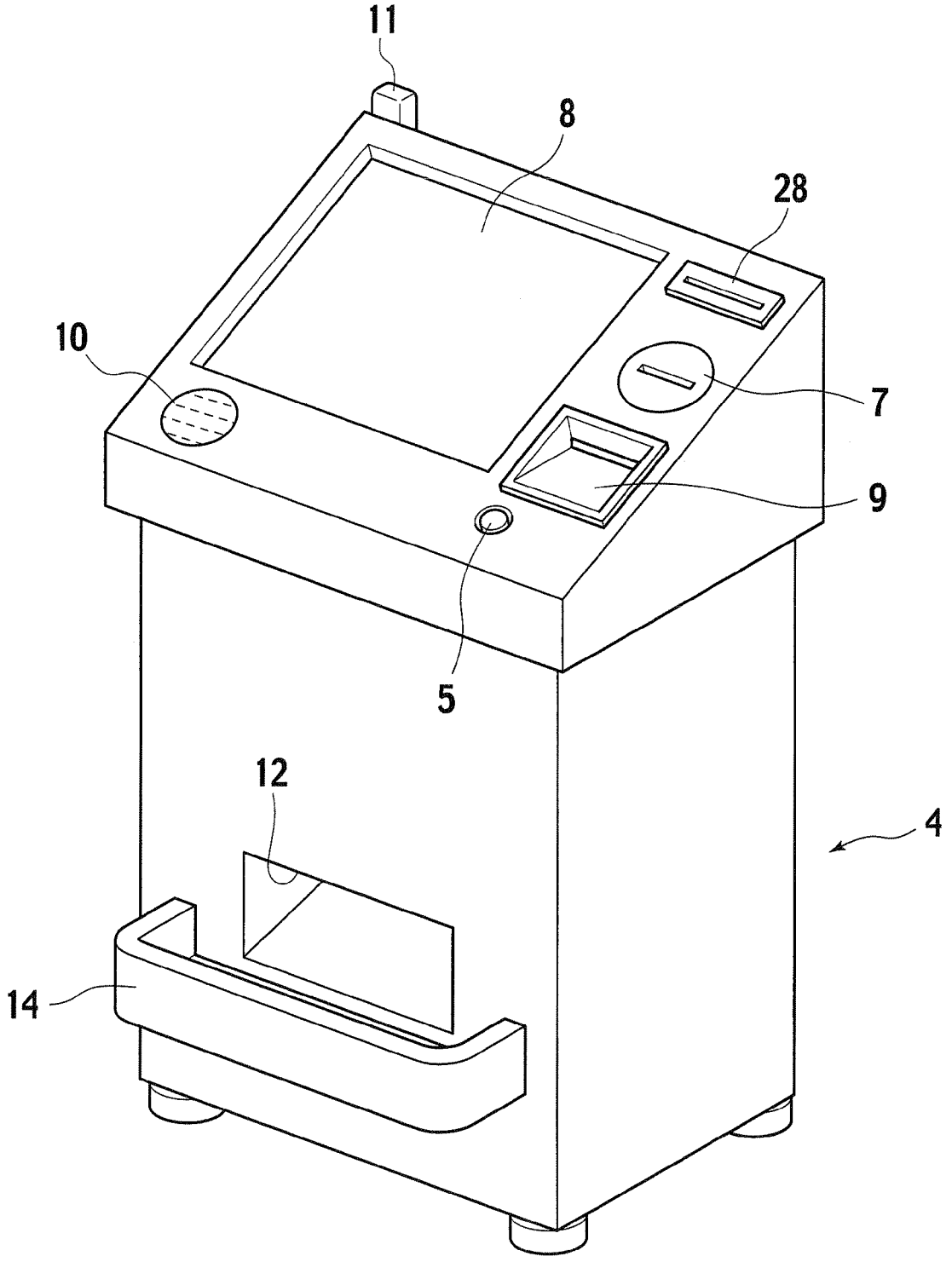


FIG. 3

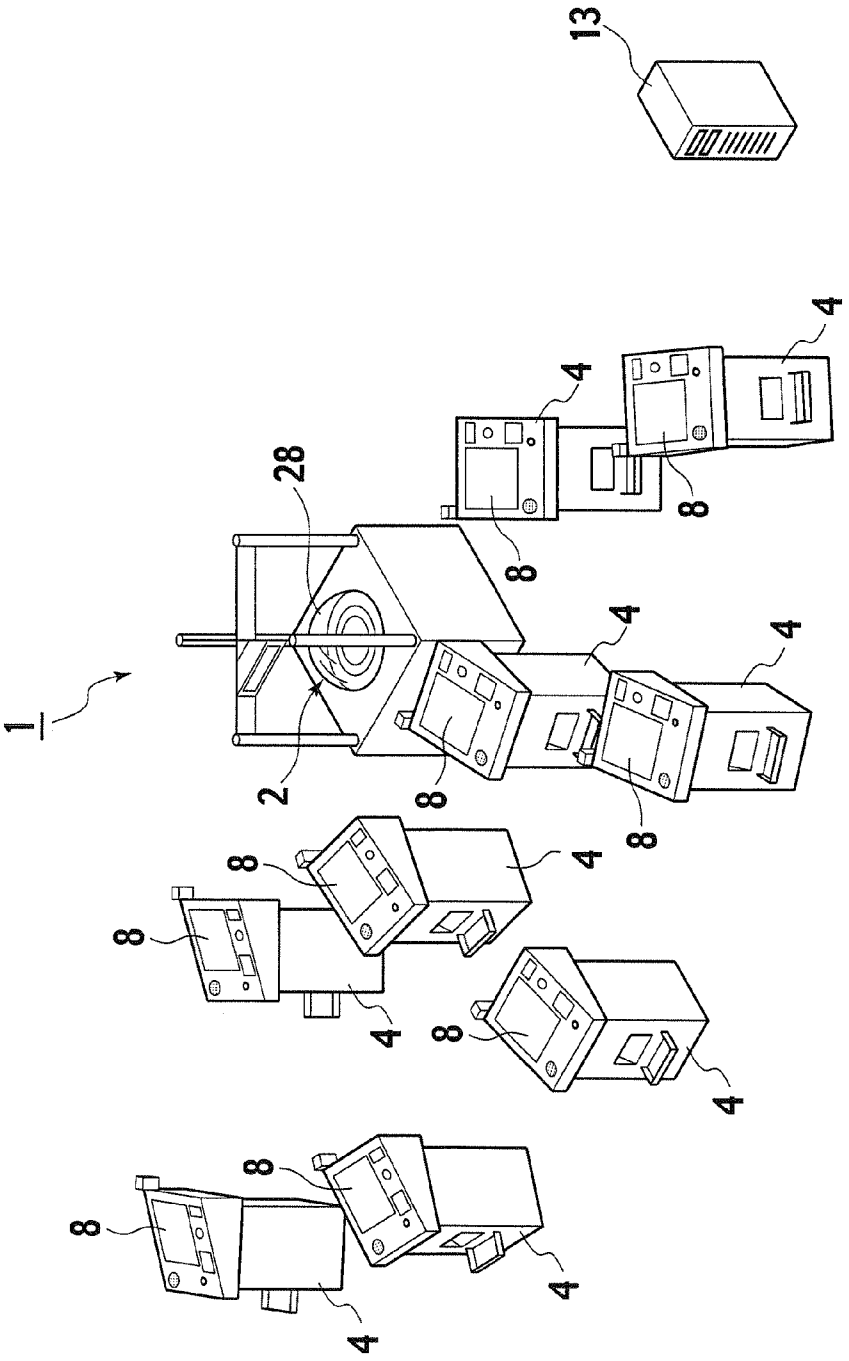


FIG. 4

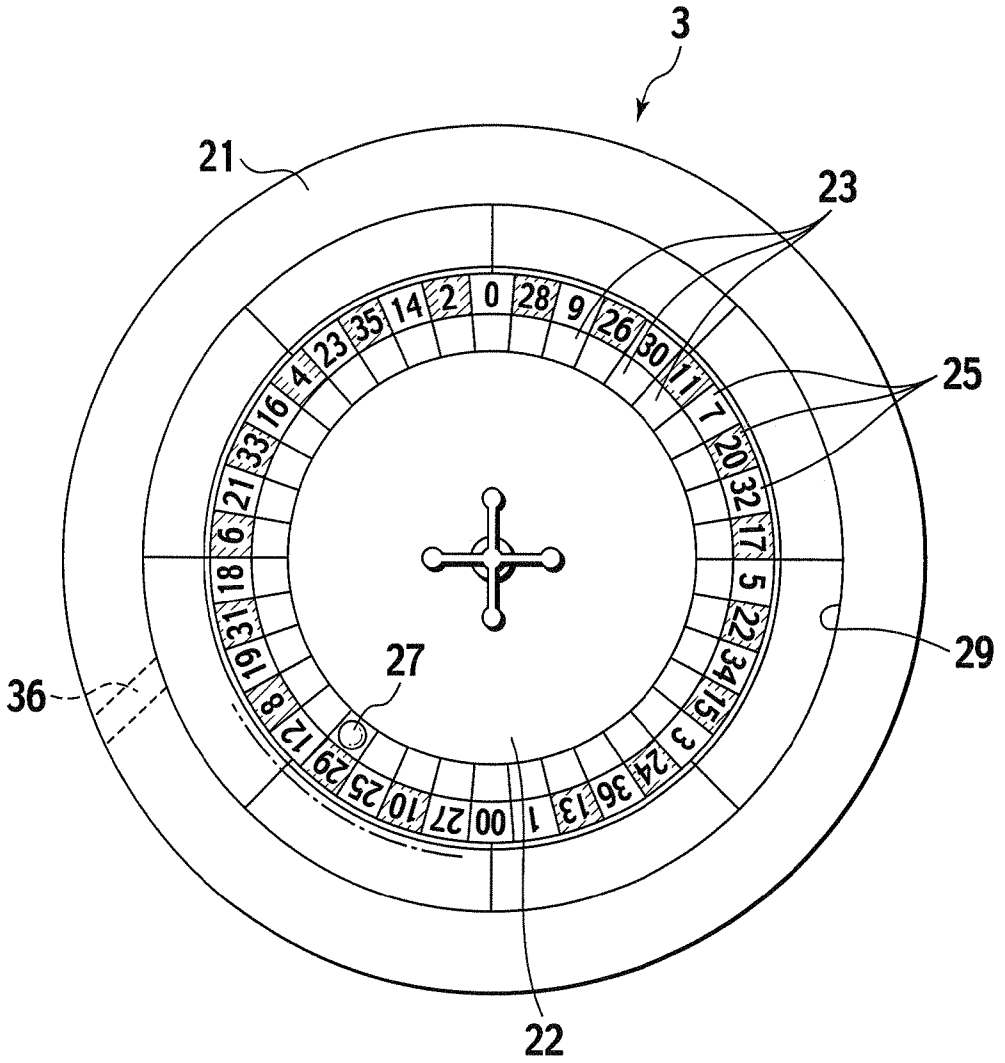

3
21
23
25
29
36
27
22
0
28
9
26
30
11
7
20
32
17
5
22
34
15
3
24
36
13
1
00
27
10
25
29
12
8
19
31
18
6
21
33
16
4
23
35
14
2

FIG. 5

	MOTOR DRIVING TIME (sec)	BALL INITIAL SPEED	SHOOTING DELAY TIME (sec)
CONTROL DATA 1	10	INITIAL SPEED a	0
CONTROL DATA 2	11	INITIAL SPEED b	0.1
CONTROL DATA 3	12	INITIAL SPEED c	0.2
CONTROL DATA 4	13	INITIAL SPEED d	0.3
CONTROL DATA 5	14	INITIAL SPEED e	0.4
CONTROL DATA 6	15	INITIAL SPEED f	0.5

FIG. 6

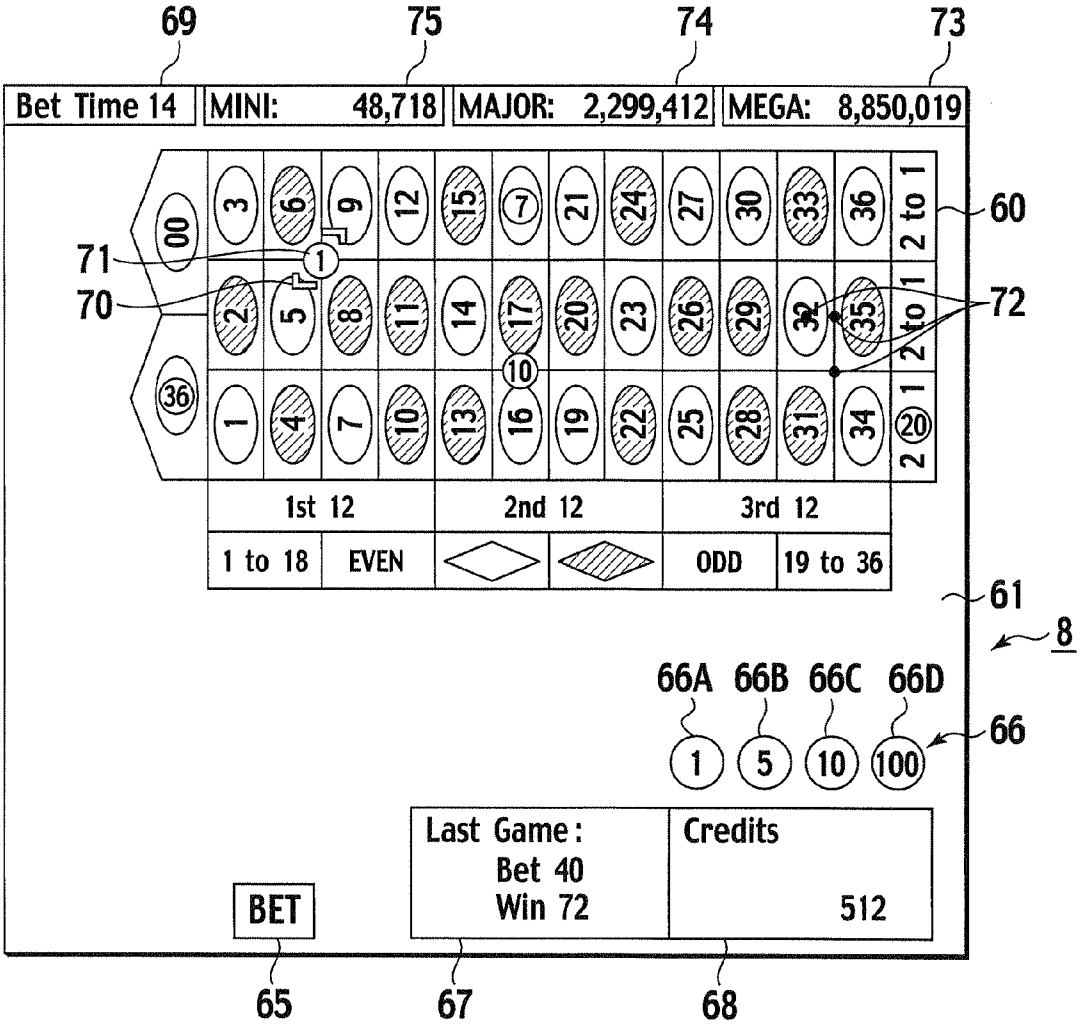

69
75
74
73
Bet Time 14
MINI: 48,718
MAJOR: 2,299,412
MEGA: 8,850,019
00
3
6
9
12
15
7
21
24
27
30
33
36
2 to 1
60
71
70
1
2
5
8
11
14
17
20
23
26
29
32
35
2 to 1
72
36
10
1
4
7
10
13
16
19
22
25
28
31
34
2 to 1
1st 12
2nd 12
3rd 12
1 to 18
EVEN
ODD
19 to 36
61
8
66A
66B
66C
66D
66
1
5
10
100
Last Game:
Bet 40
Win 72
Credits
512
BET
65
67
68

FIG. 7

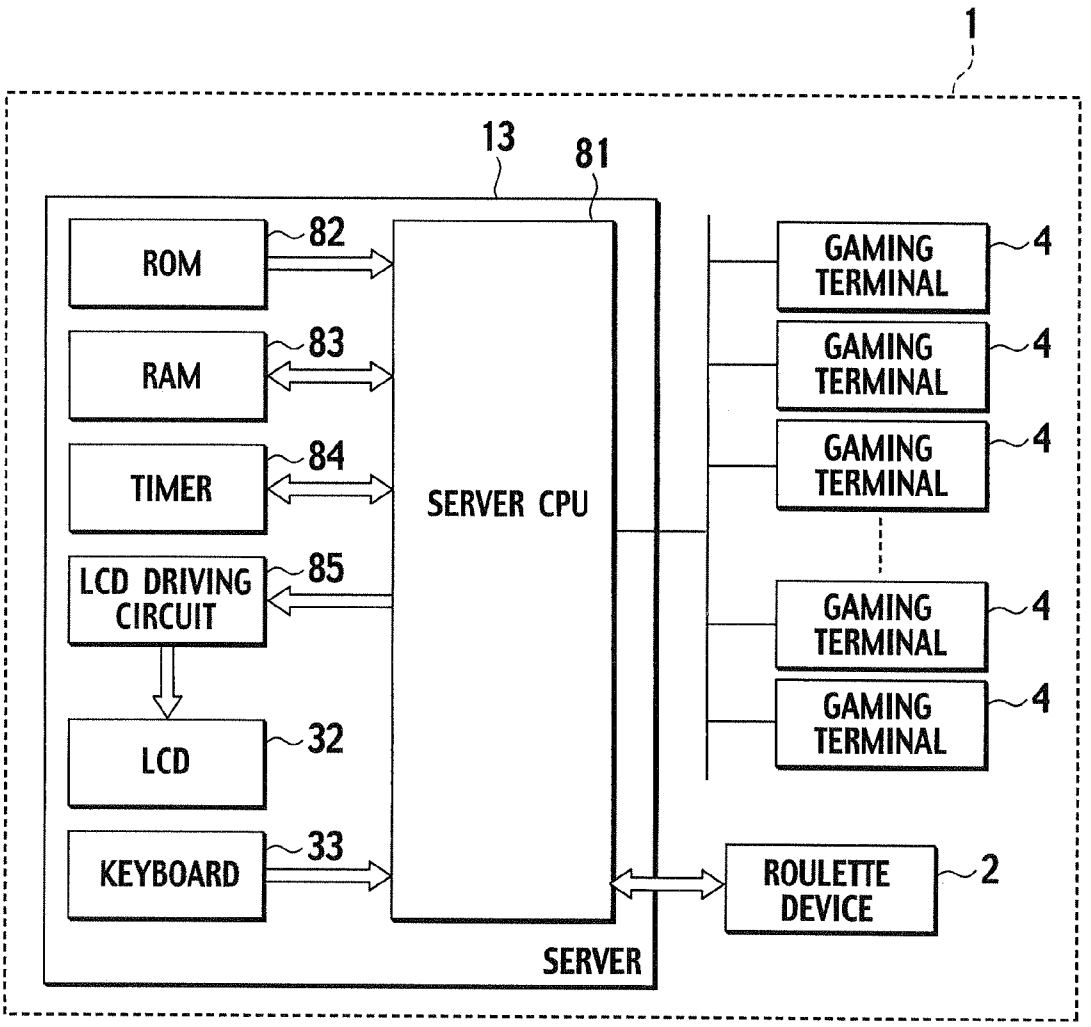

1
13
81
ROM
82
RAM
83
TIMER
84
LCD DRIVING CIRCUIT
85
LCD
32
KEYBOARD
33
SERVER CPU
SERVER
GAMING TERMINAL
4
GAMING TERMINAL
4
GAMING TERMINAL
4
GAMING TERMINAL
4
GAMING TERMINAL
4
ROULETTE DEVICE
2

FIG. 8

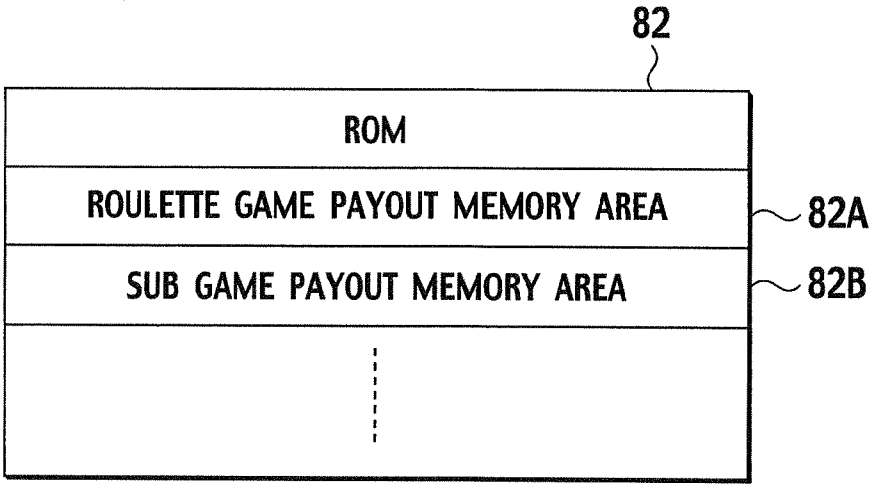

82
ROM
ROULETTE GAME PAYOUT MEMORY AREA
82A
SUB GAME PAYOUT MEMORY AREA
82B

FIG. 9

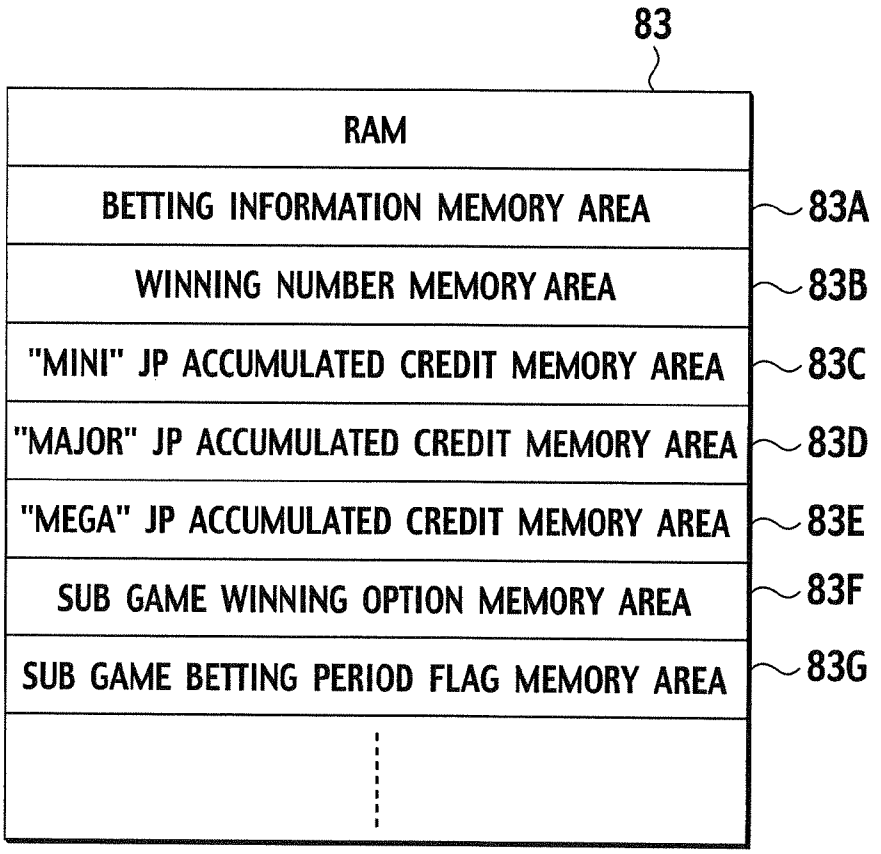

83
RAM
BETTING INFORMATION MEMORY AREA
83A
WINNING NUMBER MEMORY AREA
83B
"MINI" JP ACCUMULATED CREDIT MEMORY AREA
83C
"MAJOR" JP ACCUMULATED CREDIT MEMORY AREA
83D
"MEGA" JP ACCUMULATED CREDIT MEMORY AREA
83E
SUB GAME WINNING OPTION MEMORY AREA
83F
SUB GAME BETTING PERIOD FLAG MEMORY AREA
83G

FIG. 10

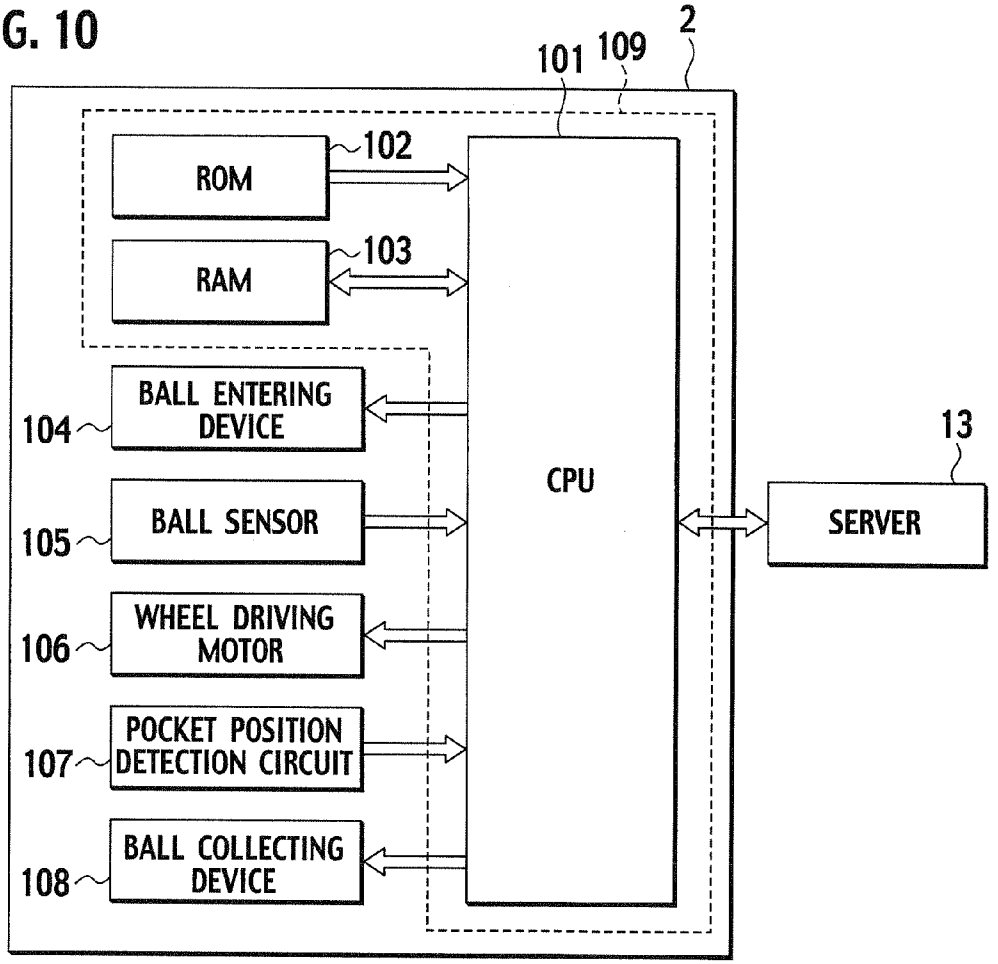
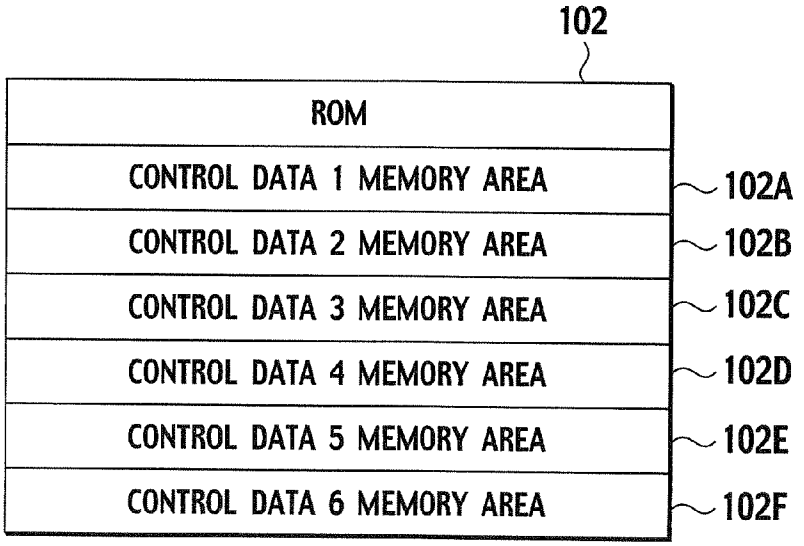

2
101
109
ROM
102
RAM
103
BALL ENTERING DEVICE
104
BALL SENSOR
105
WHEEL DRIVING MOTOR
106
POCKET POSITION DETECTION CIRCUIT
107
BALL COLLECTING DEVICE
108
CPU
13
SERVER

FIG. 11


102
ROM
CONTROL DATA 1 MEMORY AREA
102A
CONTROL DATA 2 MEMORY AREA
102B
CONTROL DATA 3 MEMORY AREA
102C
CONTROL DATA 4 MEMORY AREA
102D
CONTROL DATA 5 MEMORY AREA
102E
CONTROL DATA 6 MEMORY AREA
102F

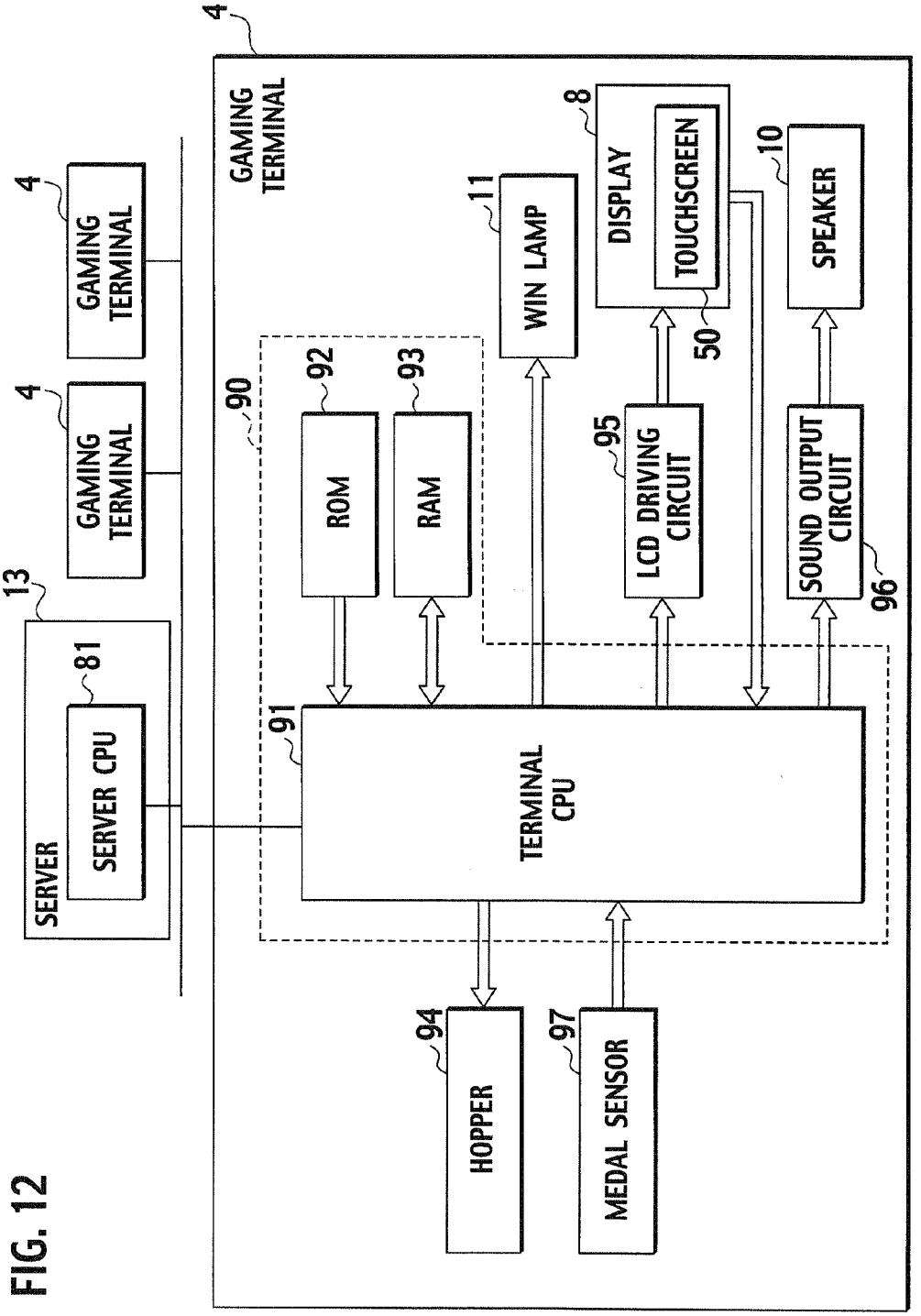

4
GAMING TERMINAL
4
GAMING TERMINAL
4
GAMING TERMINAL
13
SERVER
81
SERVER CPU
90
92
ROM
93
RAM
91
TERMINAL CPU
11
WIN LAMP
8
DISPLAY
TOUCHSCREEN
50
95
LCD DRIVING CIRCUIT
10
SPEAKER
SOUND OUTPUT CIRCUIT
96
94
HOPPER
97
MEDAL SENSOR

FIG. 12

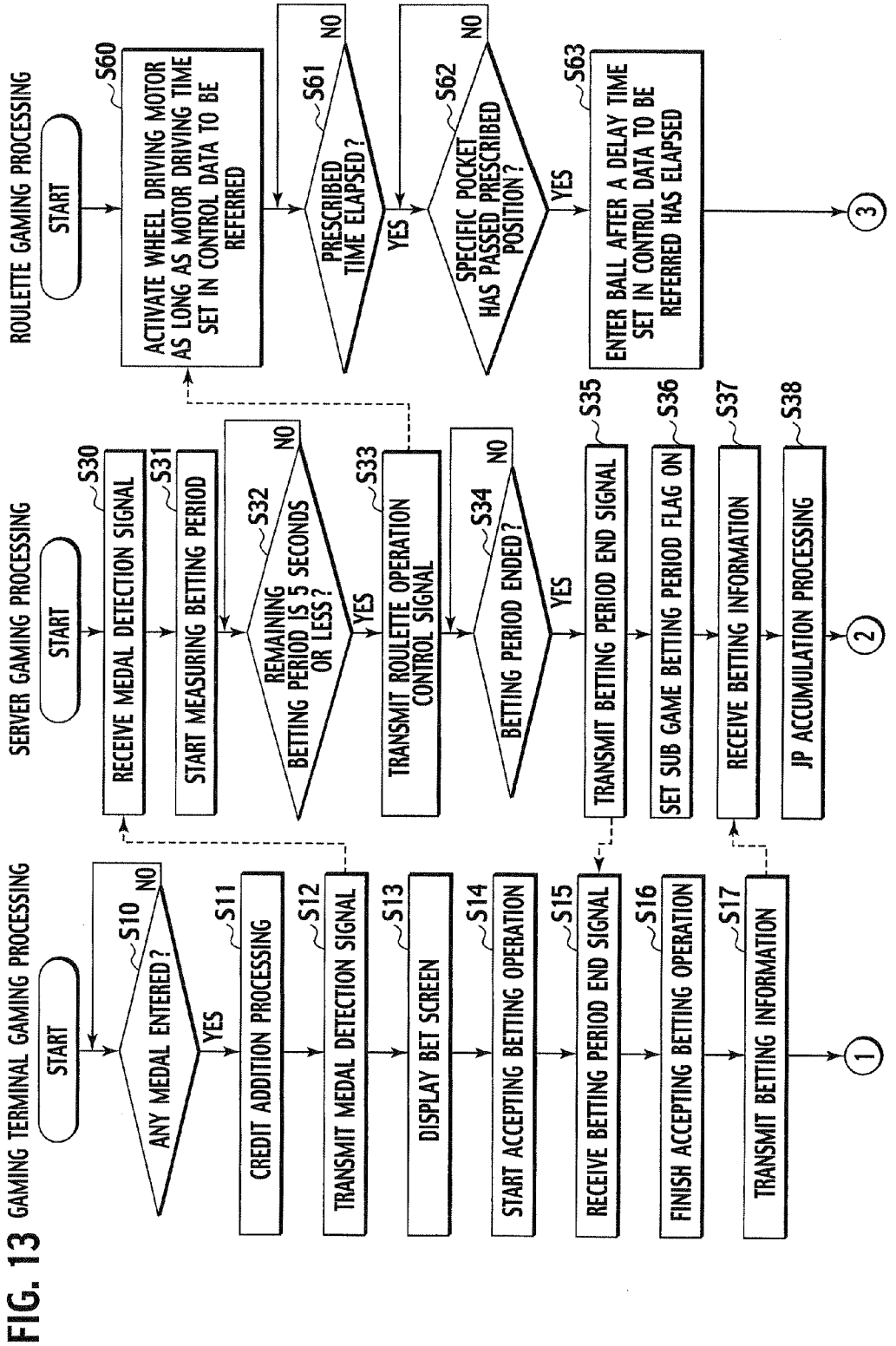

GAMING TERMINAL GAMING PROCESSING
START
S10
ANY MEDAL ENTERED?
NO
YES
S11
CREDIT ADDITION PROCESSING
S12
TRANSMIT MEDAL DETECTION SIGNAL
S13
DISPLAY BET SCREEN
S14
START ACCEPTING BETTING OPERATION
S15
RECEIVE BETTING PERIOD END SIGNAL
S16
FINISH ACCEPTING BETTING OPERATION
S17
TRANSMIT BETTING INFORMATION
1
SERVER GAMING PROCESSING
START
S30
RECEIVE MEDAL DETECTION SIGNAL
S31
START MEASURING BETTING PERIOD
S32
REMAINING BETTING PERIOD IS 5 SECONDS OR LESS?
NO
YES
S33
TRANSMIT ROULETTE OPERATION CONTROL SIGNAL
S34
BETTING PERIOD ENDED?
NO
YES
S35
TRANSMIT BETTING PERIOD END SIGNAL
S36
SET SUB GAME BETTING PERIOD FLAG ON
S37
RECEIVE BETTING INFORMATION
S38
JP ACCUMULATION PROCESSING
2
ROULETTE GAMING PROCESSING
START
S60
ACTIVATE WHEEL DRIVING MOTOR AS LONG AS MOTOR DRIVING TIME SET IN CONTROL DATA TO BE REFERRED
S61
PRESCRIBED TIME ELAPSED?
NO
YES
S62
SPECIFIC POCKET HAS PASSED PRESCRIBED POSITION?
NO
YES
S63
ENTER BALL AFTER A DELAY TIME SET IN CONTROL DATA TO BE REFERRED HAS ELAPSED
3

FIG. 13

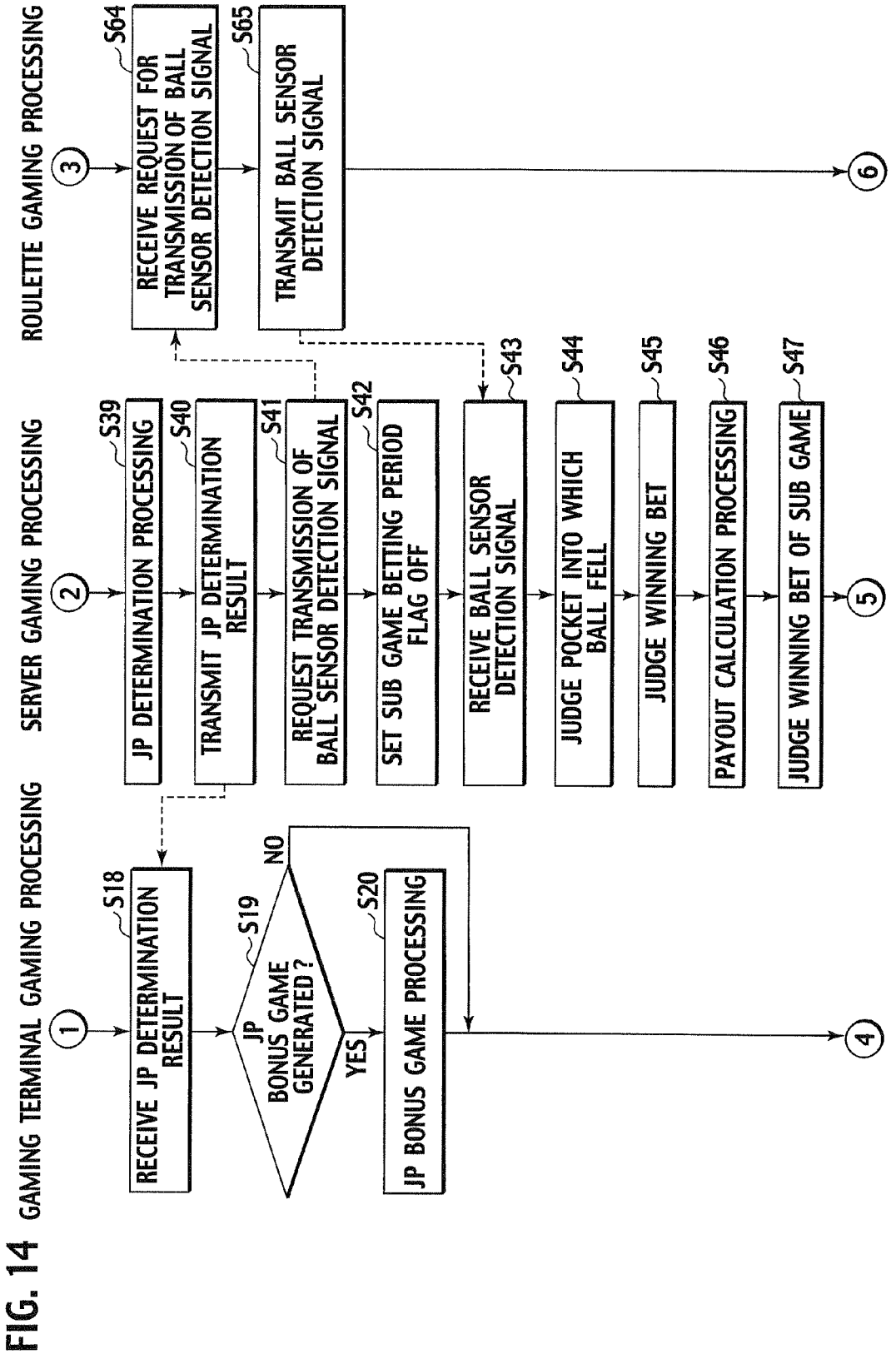

GAMING TERMINAL GAMING PROCESSING
SERVER GAMING PROCESSING
ROULETTE GAMING PROCESSING
1
2
3
4
5
6
RECEIVE JP DETERMINATION RESULT
S18
JP BONUS GAME GENERATED ?
S19
YES
NO
JP BONUS GAME PROCESSING
S20
JP DETERMINATION PROCESSING
S39
TRANSMIT JP DETERMINATION RESULT
S40
REQUEST TRANSMISSION OF BALL SENSOR DETECTION SIGNAL
S41
SET SUB GAME BETTING PERIOD FLAG OFF
S42
RECEIVE BALL SENSOR DETECTION SIGNAL
S43
JUDGE POCKET INTO WHICH BALL FELL
S44
JUDGE WINNING BET
S45
PAYOUT CALCULATION PROCESSING
S46
JUDGE WINNING BET OF SUB GAME
S47
RECEIVE REQUEST FOR TRANSMISSION OF BALL SENSOR DETECTION SIGNAL
S64
TRANSMIT BALL SENSOR DETECTION SIGNAL
S65

FIG. 14

FIG. 15

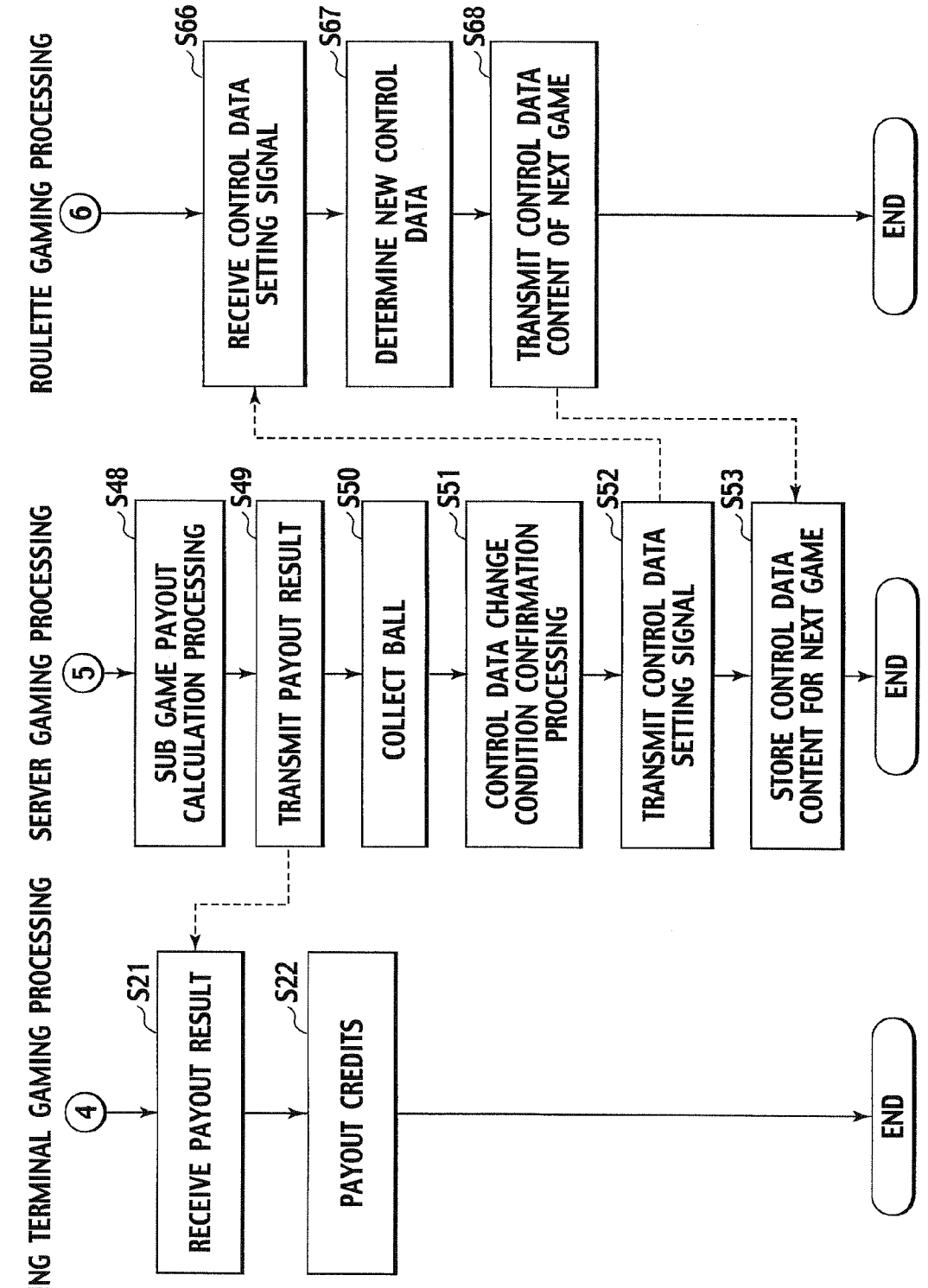
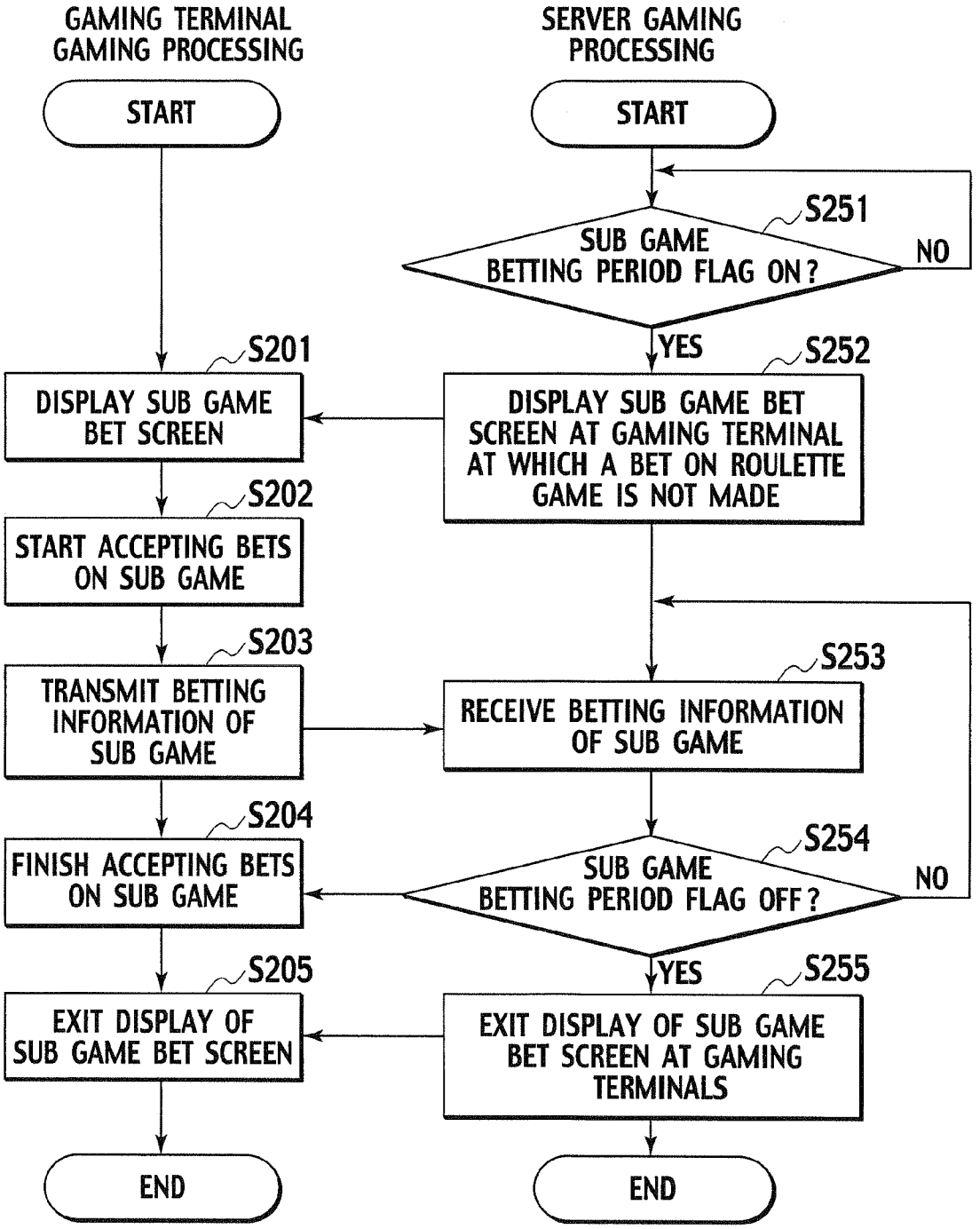

GAMING TERMINAL GAMING PROCESSING
SERVER GAMING PROCESSING
ROULETTE GAMING PROCESSING
4
5
6
S21
RECEIVE PAYOUT RESULT
S22
PAYOUT CREDITS
END
S48
SUB GAME PAYOUT CALCULATION PROCESSING
S49
TRANSMIT PAYOUT RESULT
S50
COLLECT BALL
S51
CONTROL DATA CHANGE CONDITION CONFIRMATION PROCESSING
S52
TRANSMIT CONTROL DATA SETTING SIGNAL
S53
STORE CONTROL DATA CONTENT FOR NEXT GAME
END
S66
RECEIVE CONTROL DATA SETTING SIGNAL
S67
DETERMINE NEW CONTROL DATA
S68
TRANSMIT CONTROL DATA CONTENT OF NEXT GAME
END

FIG. 16


GAMING TERMINAL GAMING PROCESSING
START
S201
DISPLAY SUB GAME BET SCREEN
S202
START ACCEPTING BETS ON SUB GAME
S203
TRANSMIT BETTING INFORMATION OF SUB GAME
S204
FINISH ACCEPTING BETS ON SUB GAME
S205
EXIT DISPLAY OF SUB GAME BET SCREEN
END
SERVER GAMING PROCESSING
START
S251
SUB GAME BETTING PERIOD FLAG ON?
NO
YES
S252
DISPLAY SUB GAME BET SCREEN AT GAMING TERMINAL AT WHICH A BET ON ROULETTE GAME IS NOT MADE
S253
RECEIVE BETTING INFORMATION OF SUB GAME
S254
SUB GAME BETTING PERIOD FLAG OFF?
NO
YES
S255
EXIT DISPLAY OF SUB GAME BET SCREEN AT GAMING TERMINALS
END

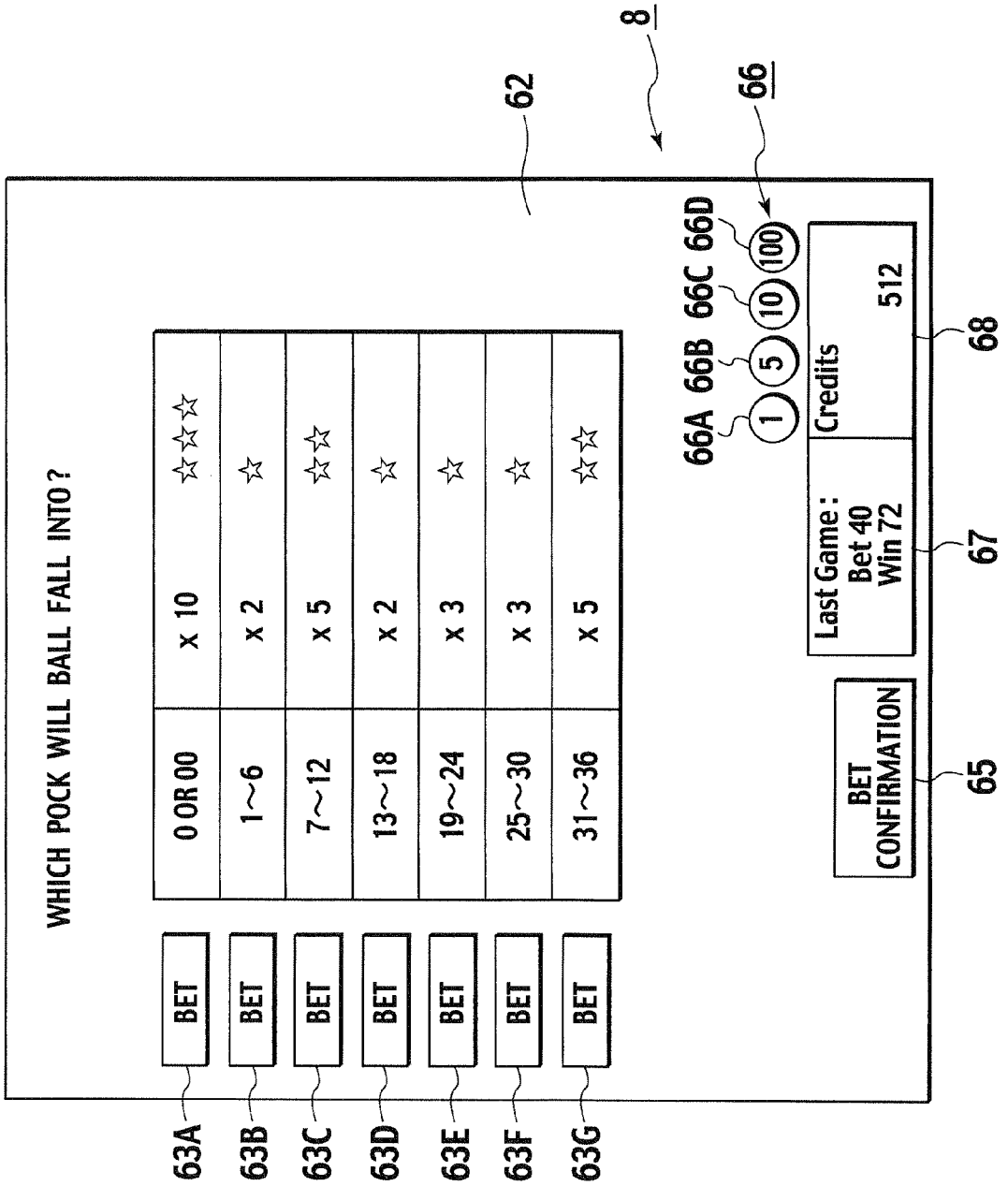

8
62
66
WHICH POCK WILL BALL FALL INTO ?
0 OR 00 x 10 ☆☆☆
1~6 x 2 ☆
7~12 x 5 ☆☆
13~18 x 2 ☆
19~24 x 3 ☆
25~30 x 3 ☆
31~36 x 5 ☆☆
BET
63A
63B
63C
63D
63E
63F
63G
66A 1
66B 5
66C 10
66D 100
Credits 512
68
Last Game : Bet 40 Win 72
67
BET CONFIRMATION
65

FIG. 17

FIG. 18

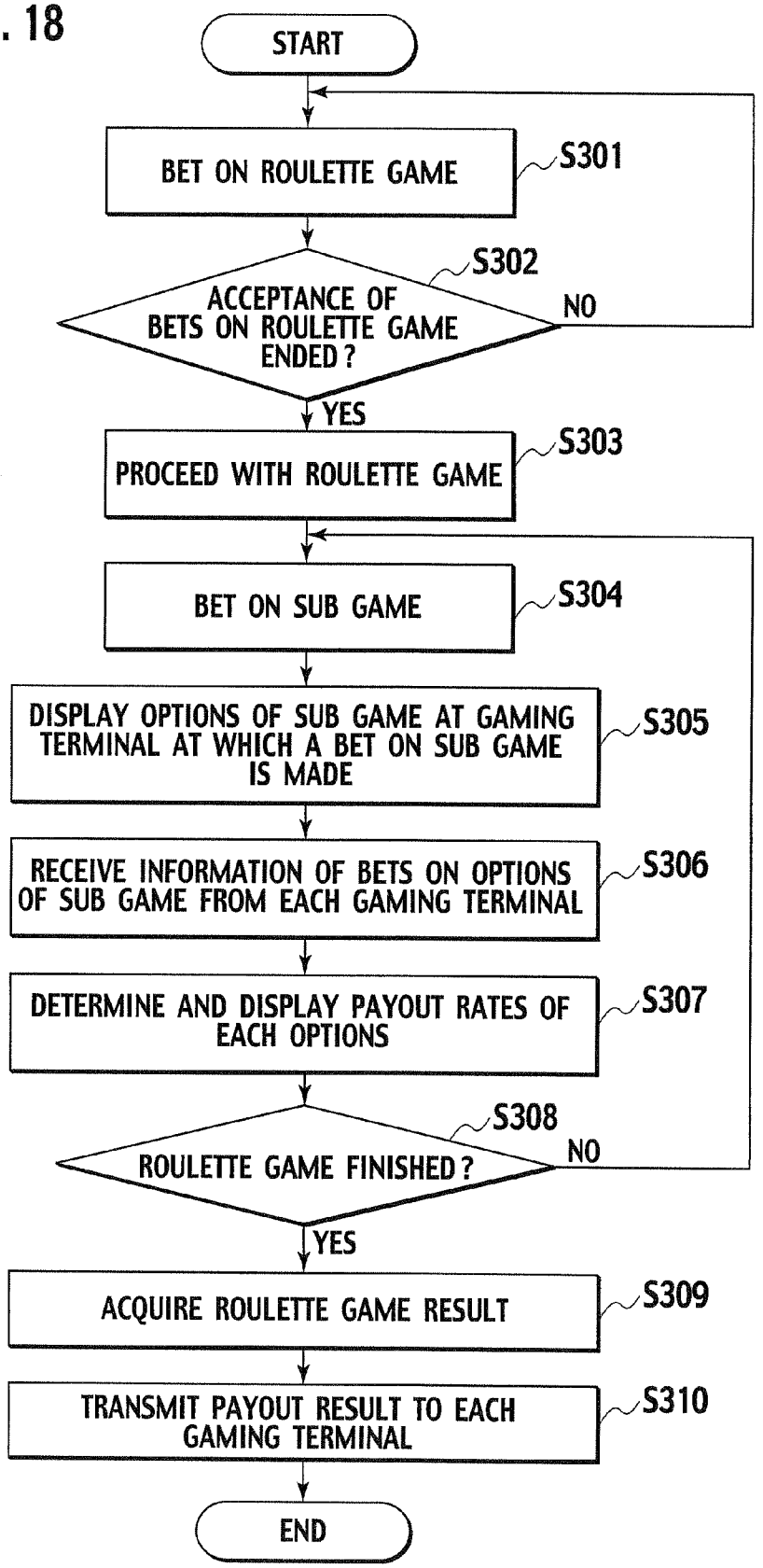
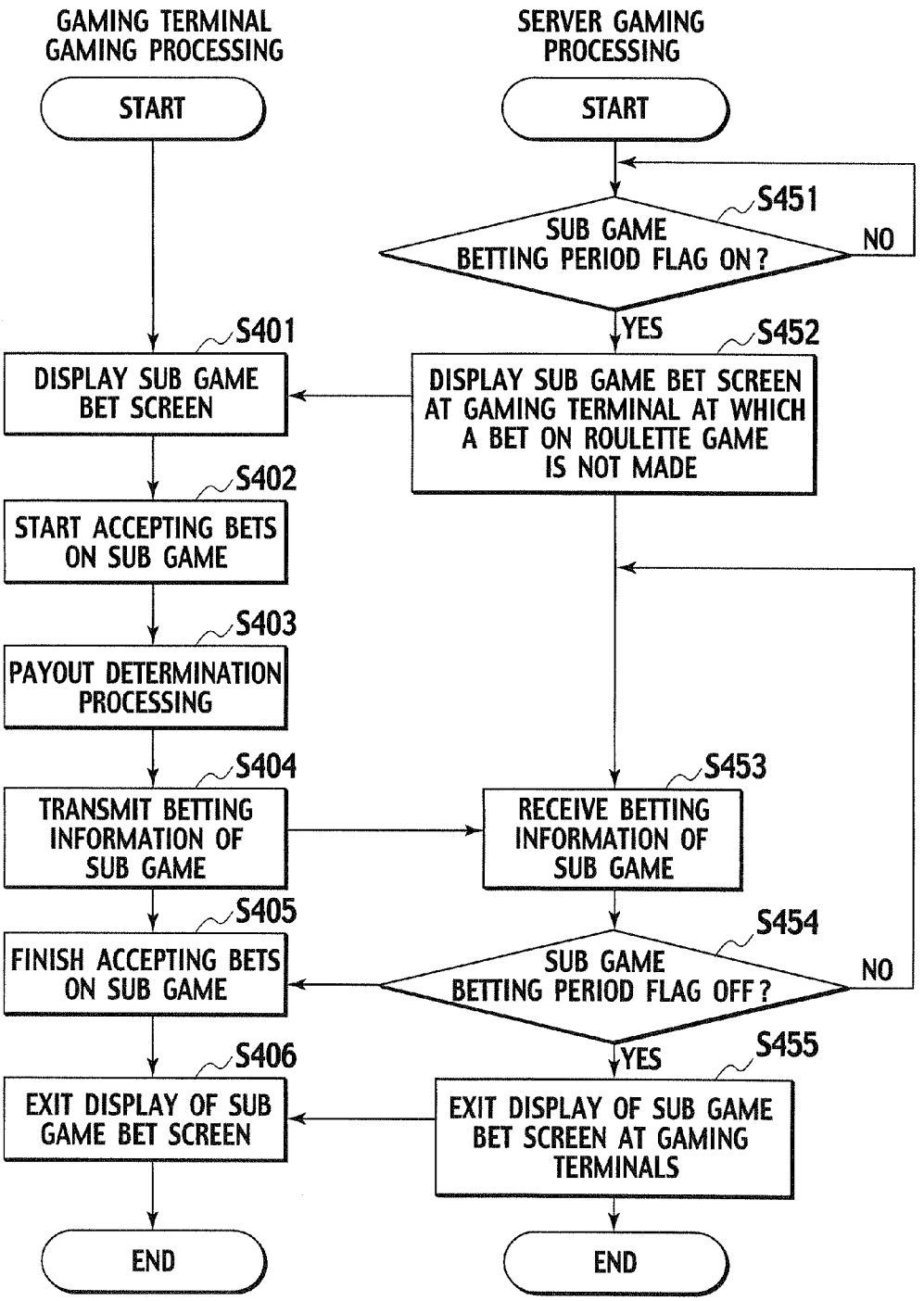

START
BET ON ROULETTE GAME
S301
S302
ACCEPTANCE OF BETS ON ROULETTE GAME ENDED?
NO
YES
PROCEED WITH ROULETTE GAME
S303
BET ON SUB GAME
S304
DISPLAY OPTIONS OF SUB GAME AT GAMING TERMINAL AT WHICH A BET ON SUB GAME IS MADE
S305
RECEIVE INFORMATION OF BETS ON OPTIONS OF SUB GAME FROM EACH GAMING TERMINAL
S306
DETERMINE AND DISPLAY PAYOUT RATES OF EACH OPTIONS
S307
S308
ROULETTE GAME FINISHED?
NO
YES
ACQUIRE ROULETTE GAME RESULT
S309
TRANSMIT PAYOUT RESULT TO EACH GAMING TERMINAL
S310
END

FIG. 19


GAMING TERMINAL GAMING PROCESSING
START
S401
DISPLAY SUB GAME BET SCREEN
S402
START ACCEPTING BETS ON SUB GAME
S403
PAYOUT DETERMINATION PROCESSING
S404
TRANSMIT BETTING INFORMATION OF SUB GAME
S405
FINISH ACCEPTING BETS ON SUB GAME
S406
EXIT DISPLAY OF SUB GAME BET SCREEN
END
SERVER GAMING PROCESSING
START
S451
SUB GAME BETTING PERIOD FLAG ON?
NO
YES
S452
DISPLAY SUB GAME BET SCREEN AT GAMING TERMINAL AT WHICH A BET ON ROULETTE GAME IS NOT MADE
S453
RECEIVE BETTING INFORMATION OF SUB GAME
S454
SUB GAME BETTING PERIOD FLAG OFF?
NO
YES
S455
EXIT DISPLAY OF SUB GAME BET SCREEN AT GAMING TERMINALS
END

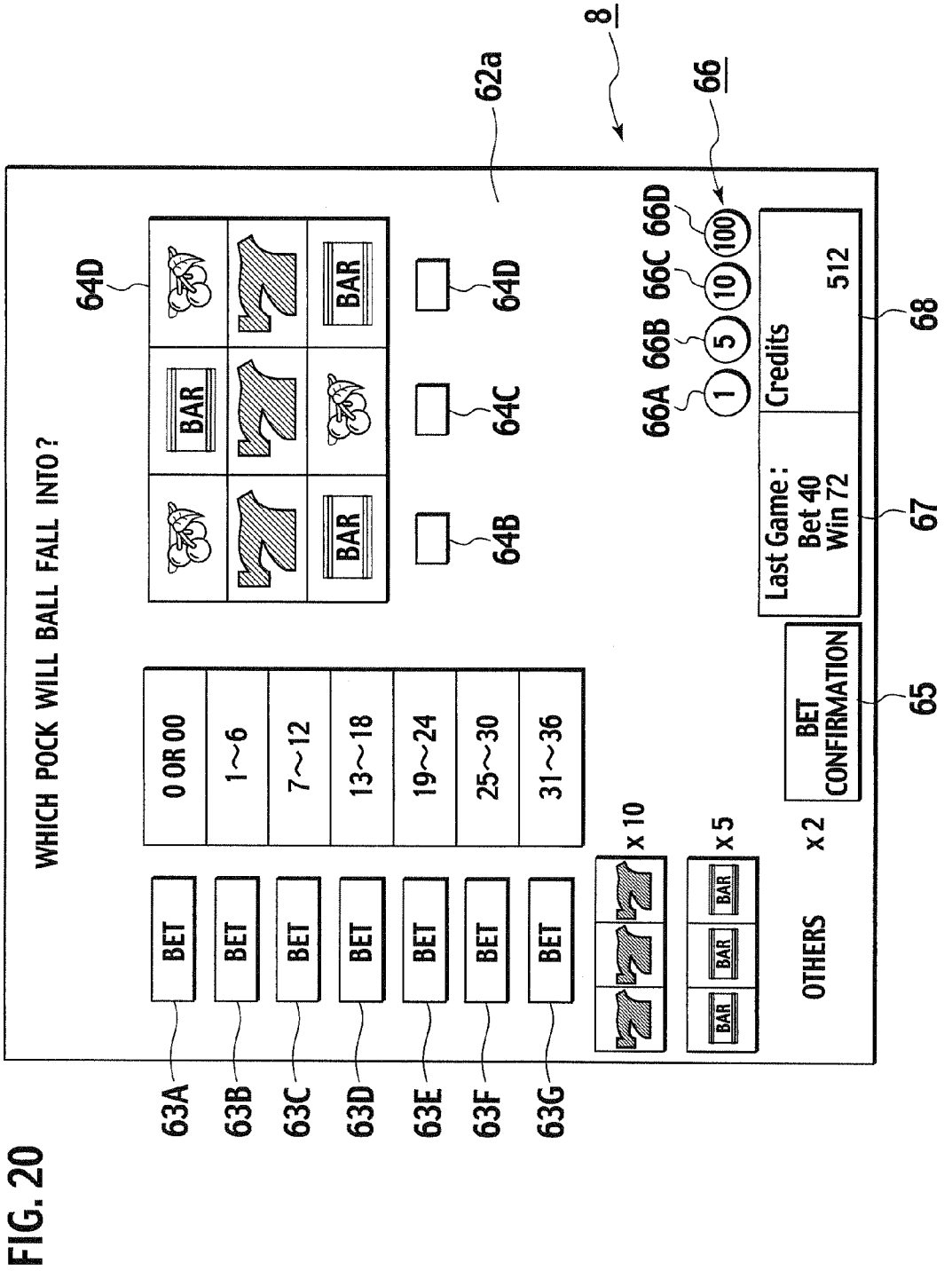
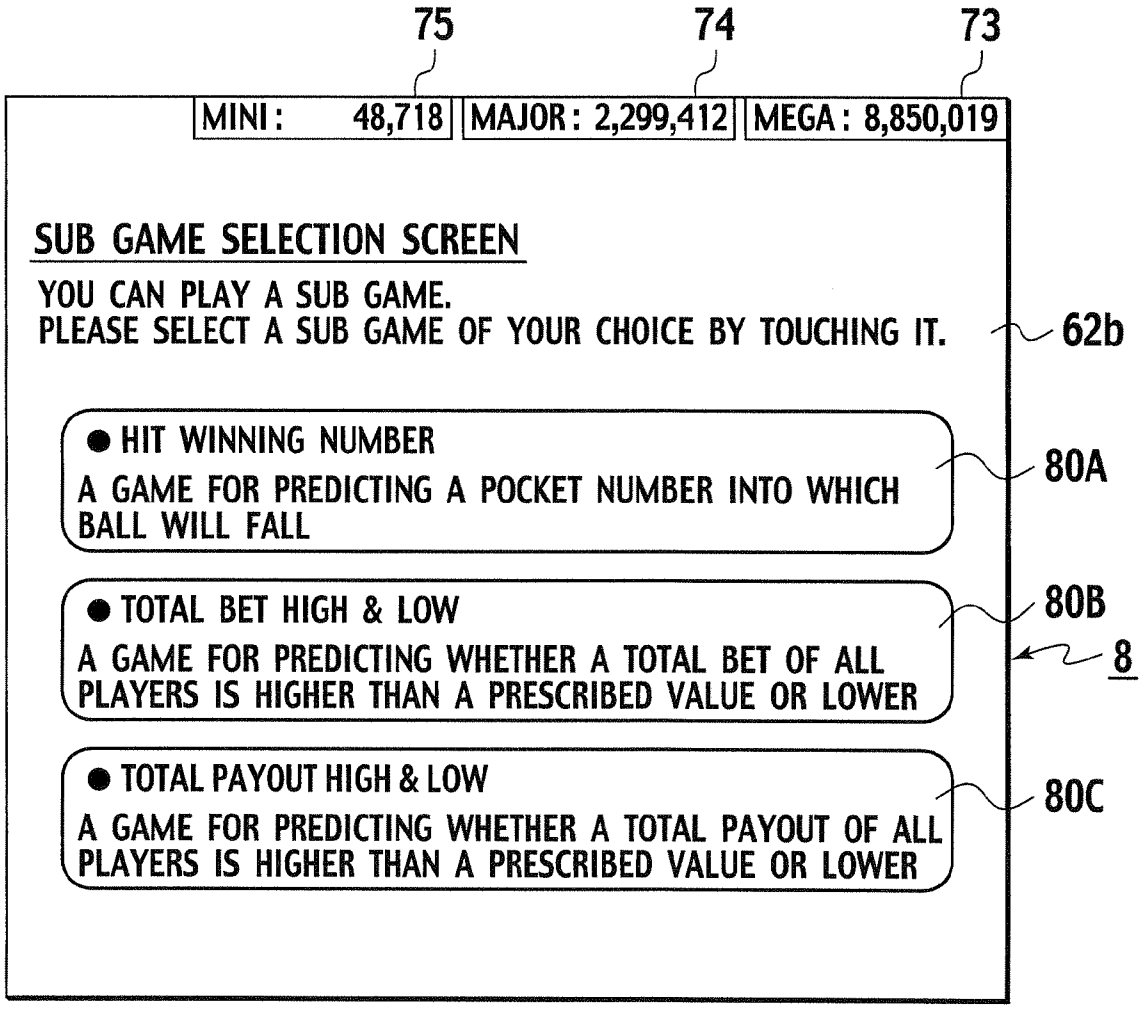

WHICH POCK WILL BALL FALL INTO?
8
62a
66
64D
BAR
64C
64B
66A 66B 66C 66D
1
5
10
100
Credits
512
Last Game:
Bet 40
Win 72
68
67
65
BET CONFIRMATION
0 OR 00
1~6
7~12
13~18
19~24
25~30
31~36
BET
x 10
x 5
x 2
OTHERS
63A
63B
63C
63D
63E
63F
63G

FIG. 20

FIG. 21


75
74
73
MINI: 48,718
MAJOR: 2,299,412
MEGA: 8,850,019
SUB GAME SELECTION SCREEN
YOU CAN PLAY A SUB GAME.
PLEASE SELECT A SUB GAME OF YOUR CHOICE BY TOUCHING IT.
62b
● HIT WINNING NUMBER
A GAME FOR PREDICTING A POCKET NUMBER INTO WHICH BALL WILL FALL
80A
● TOTAL BET HIGH & LOW
A GAME FOR PREDICTING WHETHER A TOTAL BET OF ALL PLAYERS IS HIGHER THAN A PRESCRIBED VALUE OR LOWER
80B
8
● TOTAL PAYOUT HIGH & LOW
A GAME FOR PREDICTING WHETHER A TOTAL PAYOUT OF ALL PLAYERS IS HIGHER THAN A PRESCRIBED VALUE OR LOWER
80C

GAMING APPARATUS AND PLAYING METHOD THEREOF

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application is based upon and claims the benefit of U.S. Provisional Patent Application Ser. No. 60/881,481, filed on Jan. 22, 2007; the entire contents of which are incorporated herein by reference for all purposes.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a gaming machine in which players participate in a game displayed by a game execution device through operations of gaming terminals connected to the game execution device via a network, and a playing method thereof.

[0004] 2. Description of the Related Art

[0005] In U.S. Patent Application Publication No. 2005/0059474, U.S. Patent Application Publication No. 2005/0282618, and U.S. Patent Application Publication No. 2005/0218590, a gaming machine in which players participate in a game displayed on a communal display through operations of the players at gaming terminals connected to the communal display via a network is disclosed.

[0006] The present invention has an object of providing new entertainment characteristics by adding a menu which is different from a menu for participating in a game displayed by a game execution device such as a communal display.

SUMMARY OF THE INVENTION

[0007] A first aspect of the present invention provides a gaming apparatus which comprises a game execution device for executing a first game; a plurality of gaming terminals at which operations by players for the first game or a second game related to the first game are inputted; and a game controller connected to the gaming terminals. The game controller is operable to: (a) set a betting accepting period and a game execution period for the first game, (b) accept the player's bet of game media on the first game during the betting accepting period, (c) execute the first game at the game execution device during the game execution period, and (d) execute the second game at time other than the betting accepting period at the gaming terminal at which the player's bet on the first game is not placed.

[0008] According to the first aspect of the present invention, even when there is a period in which the players cannot make bets during the execution of the first game, the second game related to the first game is provided to the player who is not betting on the first game during that period. In this way, the waiting time of the players can be eliminated and a gaming machine in which players can make bets any time can be provided. The second game of which content is related to the first game is provided, so that the interests of the players in the first game can be aroused. In this way, it becomes easier for many players to participate in games, so that it is possible to provide energized games.

[0009] A second aspect of the present invention provides a gaming apparatus which comprises a game execution device for executing a first game; a plurality of gaming terminals at which operations by players for the first game or a second game related to the first game are inputted; a memory for storing payout data in which options on which the player's bet can be placed on the second game and payout rates for respective options are set in relation; a game controller connected to the gaming terminals. The game controller is operable to: (a) set a betting accepting period and a game execution period for the first game, (b) accept the player's bet of game media on the first game during the betting accepting period, (c) execute the first game at the game execution device during the game execution period, (d) display the options and the payout rates according to the payout data at time other than the betting accepting period at the gaming terminal at which the player's bet on the first game is not placed, and (e) accept the player's bet of the game media on any of the options in the second game at the gaming terminal at which the player's bet in the first game is not placed.

[0010] According to the second aspect of the present invention, the options of which contents are related to the first game and the payout rates for these options are displayed in the second game. The player can bet credits on any of these options. As the payout rates are previously displayed, the player can enjoy the game by predicting whether the option will win or not while viewing the payout rates. Also, the player can receive the payout according to the bet credits and the payout rate.

[0011] A third aspect of the present invention provides a gaming apparatus which comprises a game execution device for executing a first game; a plurality of gaming terminals at which operations by players for the first game or a second game related to the first game are inputted; and a game controller connected to the gaming terminals. The game controller is operable to: (a) set abetting accepting period and a game execution period for the first game, (b) accept the player's bet of game media on the first game during the betting accepting period, (c) execute the first game at the game execution device during the game execution period, (d) accept the player's bet of the game media on any of options in the second game at time other than the betting accepting period at the gaming terminal at which the player's bet in the first game is not placed, (e) determine a payout rate for one of the options when the bet on any of the options for the second game is accepted, and (f) display the payout rate of the accepted option at the gaming terminal at which the player's bet on the first game is not placed.

[0012] According to the third aspect of the present invention, the payout rate of the second game is determined by a prescribed processing. In this way, it is possible to provide games with higher entertainment characteristics to the players.

[0013] A fourth aspect of the present invention provides a playing method of a gaming machine (the gaming machine has a plurality of gaming terminals at which operations by players for a first game executed at a game execution device or a second game related to the first game are inputted) which comprises: betting game media on the first game at the gaming terminal within a betting accepting period set for the first game; executing the first game at the game execution device within a game execution period set for the first game; and executing the second game at time other than the betting accepting period at the gaming terminal at which the player's bet on the first game is not placed.

[0014] According to the fourth aspect of the present invention, even when there is a period in which the players cannot make bets during the execution of the first game, the second game related to the first game is provided to the player who is not betting on the first game during that period. In this way,

the waiting time of the players can be eliminated and a gaming machine in which players can make bets any time can be provided. The second game of which content is related to the first game is provided, so that the interests of the players in the first game can be aroused. In this way, it becomes easier for many players to participate in games, so that it is possible to provide energized games.

[0015] A fifth aspect of the present invention provides a playing method of a gaming machine (the gaming machine has a game execution device and a plurality of gaming terminals at which operations by players for a first game executed at the game execution device or a second game related to the first game are inputted) which comprises: betting game media on the first game at the gaming terminal within a betting accepting period set for the first game; executing the first game at the game execution device within a game execution period set for the first game; displaying betting options and payout rates of the options for the second game at time other than the betting accepting period at the gaming terminal at which the player's bet on the first game is not placed; and accepting bets of the game media on any of the options in the second game, at those gaming terminals at which bets in the first game are not placed.

[0016] According to the fifth aspect of the present invention, the options of which contents are related to the first game and the payout rates for these options are displayed in the second game. The player can bet credits on any of these options. As the payout rates are previously displayed, the player can enjoy the game by predicting whether the option will win or not while viewing the payout rates. Also, the player can receive the payout according to the bet credits and the payout rate.

[0017] A sixth aspect of the present invention provides a playing method of a gaming machine (the gaming machine has a game execution device and a plurality of gaming terminals at which operations by players for a first game executed at the game execution device or a second game related to the first game are inputted) which comprises: betting game media on the first game at the gaming terminal within a betting accepting period set for the first game; executing the first game at the game execution device within a game execution period set for the first game; accepting the player's bet of the game media on any of options for the second game at time other than the betting accepting period at the gaming terminal at which the player's bet on the first game is not placed; determining a payout rate for one of the options when the bet on any of the options for the second game is accepted; and displaying the payout rate of the accepted option at the gaming terminal at which the player's bet on the first game is not placed.

[0018] According to the sixth aspect of the present invention, the payout rate of the second game is determined by a prescribed processing. In this way, it is possible to provide games with higher entertainment characteristics to the players.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] FIG. **1** is a flow chart showing an outline of a processing of a roulette game machine according to an embodiment of the present invention.

[0020] FIG. **2** is a diagram showing a perspective view of a gaming terminal according to an embodiment of the present invention.

[0021] FIG. **3** is a diagram showing a perspective view of an outward appearance of a schematic configuration of a roulette game machine according to an embodiment of the present embodiment.

[0022] FIG. **4** is a diagram showing a plan view of a roulette device according to an embodiment of the present embodiment.

[0023] FIG. **5** is a diagram showing one example of a control data.

[0024] FIG. **6** is a diagram showing one example of an image to be displayed on a display.

[0025] FIG. **7** is a block diagram showing an internal configuration of a roulette game machine according to an embodiment of the present embodiment.

[0026] FIG. **8** is a schematic diagram showing a memory area of a ROM of a roulette game machine according to an embodiment of the present embodiment.

[0027] FIG. **9** is a schematic diagram showing a memory area of a RAM of a roulette game machine according to an embodiment of the present embodiment.

[0028] FIG. **10** is block diagram showing an internal configuration of a roulette device according to an embodiment of the present embodiment.

[0029] FIG. **11** is a schematic diagram showing a memory area of a ROM of a roulette device according to an embodiment of the present embodiment.

[0030] FIG. **12** is a block diagram showing an internal configuration of a gaming terminal according to an embodiment of the present embodiment.

[0031] FIG. **13** is a flow chart showing gaming processings of a gaming terminal, a server and a roulette device of a roulette game machine according to an embodiment of the present embodiment.

[0032] FIG. **14** is a flow chart showing gaming processings of a gaming terminal, a server and a roulette device of a roulette game machine according to an embodiment of the present embodiment.

[0033] FIG. **15** is a flow chart showing gaming processings of a server and a roulette device of a roulette game machine according to an embodiment of the present embodiment.

[0034] FIG. **16** is a flow chart showing gaming processings of a gaming terminal and a server of a roulette game machine according to an embodiment of the present embodiment.

[0035] FIG. **17** is a diagram showing one example of an image to be displayed on a display of a gaming terminal according to an embodiment of the present invention.

[0036] FIG. **18** is a flow chart showing an outline of a processing of a roulette game machine according to an exemplary modification of an embodiment of the present invention.

[0037] FIG. **19** is a flow chart showing gaming processings of a gaming terminal and a server of a roulette game machine according to an exemplary modification of an embodiment of the present embodiment.

[0038] FIG. **20** is a diagram showing one example of an image to be displayed on a display of a gaming terminal according to an exemplary modification of an embodiment of the present invention.

[0039] FIG. **21** is a diagram showing one example of a sub game selection screen to be displayed on a display of a gaming terminal.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0040] FIG. **1** is a flow chart showing a control method of a gaming machine according to an embodiment of the present invention.

[0041] Note that, in the present embodiment, a roulette game machine in which a plurality of players can participate and a playing method thereof will be described as an example of a gaming machine. This roulette game machine has a plurality of gaming terminals that can be used by players. This roulette game machine is a stand-alone type game machine that is not connected to an external network such as the Internet. However, the present invention is also applicable to a gaming machine that is connected to an external network.

[0042] In the gaming machine **1** of the present embodiment, a betting accepting period and a game execution period are set previously for a roulette game which is a main game to be executed. The betting accepting period is a period during which it is possible to accept betting from each gaming terminal **4**. The game execution period is a period during which a roulette game is executed after the betting accepting period.

[0043] Besides a main game, the gaming machine **1** executes a sub game related to a main game. This sub game is one in which the player(s) who is not betting on the main game can participate, during the game execution period of the main game. More specifically, in the case where the main game is a roulette game, this sub game is a game for betting on "would a ball fall into a pocket number 00 or not?" or "would a total payout of all participants of the roulette game be greater than 1000 chips or not?" and so on. The gaming machine **1** may determine which game is to be executed by the player. Also, the player himself may select the sub game that he wishes to play among a plurality of sub games. This sub game will be executed after the betting accepting period of the main game is ended.

[0044] In the present embodiment, in the course of the game as described above, the betting of the game media in the roulette game will be accepted during the betting accepting period at a plurality of gaming terminals **4** (step S**101**). Then, whether the betting acceptance in the roulette game is ended or not is judged (step S**102**). When it is judged that the betting acceptance is not ended, the processing returns to the step S**101**, and the betting on the roulette game will be accepted. On the other hand, when it is judged that the betting acceptance in the roulette game is ended, or more specifically, when it is in the game execution period, the gaming machine **1** proceeds with the roulette game (step S**103**). Here, the game media are cash, chips, medals, etc., that are used at the gaming machine **1**.

[0045] When the betting accepting period in the roulette game is ended, the betting on the sub game will be accepted at the gaming terminals **4** (step S**104**). At this point, the gaming machine **1** displays the options and payout rates of the sub game at the gaming terminals **4** (step S**105**). The options are targets of betting on the sub game and related to a result of the roulette game (main game). The payout rate is payout credits per one gaming media when the bet gaming media wins. For example, in the case where the sub game is a game for betting on "would a ball fall into a pocket number 00 or not?" or "would a total payout of all participants of the roulette game be greater than 1000 chips or not?", the options will be "YES" or "NO".

[0046] When the betting information is determined at the gaming terminal **4**, the betting information is transmitted to the server **13**. The server **13** receives the betting information from the gaming terminal **4** (step S**106**).

[0047] Next, whether the roulette game is over or not is judged (step S**107**). In the case where it is judged that the roulette game is not over, the processing returns to the step S**104**. Then, the gaming machine **1** will accept the betting of the game media to the sub game from the gaming terminal **4** that is not participating in the roulette game.

[0048] On the other hand, in the case where it is judged that the roulette game is over, the result of the roulette game is acquired (step S**108**). Here, the result of the roulette game is a pocket number into which the ball **27** fell. Next, the gaming machine **1** determines the winning option of the sub game according to the result of the roulette game acquired at the step S**108**. For example, in the case where the sub game is a game for predicting "would a ball fall into a pocket number 00 or not?", the winning option is determined according to whether the roulette game result of the step S**108** is "00" or not. On the other hand, in the case where the sub game is a game for predicting "would a total payout of all participants of the roulette game be greater than 1000 chips or not?", the total payout to all the players who bet in the roulette game is calculated, and the winning option is determined according to that result. In addition, the payout credit for the betting on the winning option in the sub game is calculated according to the game result of the step S**108**. In addition, the gaming machine **1** transmits the calculated payout credit to each gaming terminal **4** (step S**109**).

[0049] In this way, according to the present embodiment, the sub game will be started to the player(s) who is not betting on the main game after the betting accepting period of the main game is ended. Namely, in the present embodiment, it is possible to provide an opportunity to play to even the player (s) who could not participate in the main game, by providing the sub game that is related to the main game to the player(s) who joined during a period when the betting on the main game cannot be placed.

[0050] Also, since the payout rate is previously displayed, the player can enjoy the game by predicting whether the betting to the sub game will win or not while watching the payout rate of the option.

[0051] FIG. **2** is a perspective view of the gaming terminal used in the control method of the gaming machine of FIG. **1**. FIG. **3** is a perspective view of an outward appearance showing a schematic configuration of the roulette game machine according to the embodiment of the present invention which has the gaming terminal of FIG. **2**.

[0052] The gaming terminal **4** shown in FIG. **2** is provided in plurality at the roulette game machine **1** of the first embodiment shown in FIG. **3** (corresponding to the gaming machine of the present invention). Besides these, the roulette game machine **1** has a roulette device **2** (corresponding to the game execution device of the present invention) and a server **13**. The gaming terminals **4**, the roulette device **2** and the server **13** can be connected by a local area network or the like.

[0053] At the roulette device **2**, the roulette game will be executed under the control of the server **13**, and the game will be displayed to the players. The players use a plurality of gaming terminals **4** that are arranged around the roulette

device **2**, in order to participate in the roulette game displayed by the roulette device **2**. In the present embodiment, the roulette game machine **1** has nine gaming terminals **4**. Consequently, at most nine players can participate in the communal roulette game simultaneously.

[0054] FIG. **4** is a plan view of a roulette device provided in a roulette game machine of FIG. **3**.

[0055] As shown in FIG. **4**, the roulette device **2** has a frame **21**, and a roulette wheel **22** which is accommodated and supported rotatably inside the frame **21**. On an upper surface of the roulette wheel **22**, a plurality (38 in total in the present embodiment) of number pockets **23** is formed. In addition, on an upper surface of the roulette wheel **22** on an outer side of the number pockets **23**, number plates **25** are provided for displaying numbers "0", "00", "1" to "36" in correspondence to the respective number pockets **23**.

[0056] A ball entering hole **36** is opened on the inner periphery of the frame **21**. The ball entering hole **36** is connected to a ball entering device **104** (see FIG. **10**). In conjunction with the activation of the ball entering device **104**, a ball **27** will be entered onto the roulette wheel **22** from the ball entering hole **36**. Also, a hemispherical transparent acrylic cover **28** covers over the roulette device **2** (see FIG. **3**).

[0057] A wheel driving motor **106** (see FIG. **10**) is provided on a lower side of the roulette wheel **22**. In conjunction with the activation of the wheel driving motor **106**, the roulette wheel **22** will be rotated. Metal plates (not shown) are attached at prescribed intervals on a lower surface of the roulette wheel **22**. As a proximity sensor of a pocket position detection circuit **107** (see FIG. **10**) detects these metal plates, a position of the number pocket **23** is detected.

[0058] The frame **21** is gently inclined toward an inner side, and a guide wall **29** is formed on its middle section. The entered ball **27** is rolled by being guided by the guide wall **29** due to its centrifugal force. The ball **27** rolls down the slope of the frame **21** toward the inner side as the rotational speed decreases and the centrifugal force becomes weaker, and reaches to the rotating roulette wheel **22**. Then, the ball **27** that reached to the roulette wheel **22** further falls into one of the number pockets **23** by passing over the number plates **25** on an outer side of the rotating roulette wheel **22**. As a result, the number on the number plate **25** of the number pocket **23** into which the ball fell is judged by a ball sensor **105**, and this number will become a winning number.

[0059] The rotation of the roulette wheel **22** and the shooting of the ball **27** are controlled according to a control data. FIG. **5** is a diagram showing an exemplary control data.

[0060] As shown in FIG. **5**, six control data **1** to **6** are provided in the present embodiment. Each of the control data **1** to **6** contains a motor driving time, a ball initial speed, and a shooting delay time.

[0061] The motor driving time is a time for activating the wheel driving motor **106** (see FIG. **10**). The roulette wheel **22** is rotated at a prescribed rotational speed by the wheel driving motor **106** for duration of the motor driving time. Note that after the activation of the wheel driving motor **106** is released, the rotational speed of the roulette wheel **22** will gradually decrease and come to stop eventually. The ball initial speed is an initial speed at a time of shooting the ball **27** by the ball entering device **104**. The shooting delay time is a time since a prescribed number pocket **23** passes a prescribed position until the ball is shot while the roulette wheel **22** is rotated.

[0062] The control data **1** to **6** to be referred in each game at a time of controlling the rotation of the roulette wheel **22** and the shooting of the ball **27** are switched whenever a prescribed condition is met.

[0063] Here, the control data to be referred will be switched whenever it becomes a prescribed time (0-th minute of each hour, for example). In the present embodiment, the case where the control data are switched whenever it becomes a prescribed time will be described, but the prescribed condition is not limited to this case. For example, the prescribed condition can be a case where the ball **27** fell into a specific number pocket consecutively for a prescribed number of times, a case where the ball **27** fell into any of number pockets **23** of the same group (region) consecutively for a prescribed number of times, a case where a prescribed bonus (a mystery bonus or jackpot, for example) occurs, a case where the amount of chips bet on numbers belonging to a prescribed group reaches to a prescribed amount, a case where the amount of chips to be paid for the bets on numbers belonging to a prescribed group reaches to a prescribed amount, etc.

[0064] In the above described example, the case where the control data is formed by the motor driving time, the ball initial speed and the shooting delay time has been described, but the control data are not limited to this case. The control data may be data containing any of data regarding a rotation control of the roulette wheel **22** (the motor driving time), data regarding a timing for shooting the ball **27** (the shooting delay time), and data regarding an initial speed for shooting the ball **27** (the ball initial speed) or their combination. As the data regarding the rotation control of the roulette wheel **22**, it is possible to use the rotation speed of the roulette wheel **22**, for example, besides the motor driving time.

[0065] Next, the configuration of the gaming terminal **4** will be described.

[0066] As shown in FIG. **2**, the gaming terminal **4** has a medal insertion slot **7** for inserting game media (currency value: such as cash, a chip, a medal, etc.) and a display **8** for displaying images related to the game on its upper face. The gaming terminal **4** accepts the betting operation by the player by using the medal insertion slot **7** and the display **8**. The player can play the game by operating the touchscreen **50** (see FIG. **10**) or the like that is provided on a front face of the display **8** while watching the images displayed on the display **8**. Note that, in the following description, the game media may be referred as their representative "medals".

[0067] Also, besides the medal insertion slot **7** and the display **8** described above, a payout button **5**, a ticket printer **6**, a bill insertion slot **9**, and a speaker **10** are provided on an upper face of the gaming terminal **4**. A medal payout opening **12** and a medal tray **14** are provided in a front face of the gaming terminal **4**.

[0068] The payout button **5** is a button for inputting a command for paying out credited medals from the medal payout opening **12** to the medal tray **14**. The ticket printer **6** prints out as the bar code ticket including the data such as the credits, the date, and the identification number of the gaming terminal **4**. The player can use the bar code ticket at another gaming terminal **4** and the player can bet to the game at that gaming terminal **4**. Or the player can exchange the bar code ticket to bills or the like at a prescribed location (a cashier in the casino, for example) in the gaming facility.

[0069] The bill insertion slot **9** judges whether the legitimacy of the bills, and accepts the legitimate bills. Note that

the bill insertion slot **9** can read the bar code ticket **39**. The speaker **10** outputs music, effect sounds and the like.

[0070] On an upper side of the display **8** of each gaming terminal **4**, a WIN lamp **11** is provided respectively. In the case where the number ("0", "00" and "1" to "36" in the present embodiment) bet at the gaming terminal **4** in the game becomes the winning number, the WIN lamp **11** of the winning gaming terminal **4** will be turned on. Also, in the jackpot (referred hereafter also as JP) bonus game for obtaining JP, the WIN lamp **11** of the gaming terminal **4** that obtained JP will be turned on similarly. Note that this WIN lamp **11** provided at a position that is visible from all of the arranged gaming terminals **4** (9 sets in the present embodiment), such that the other players who are playing at the same roulette game machine **1** can always check which WIN lamp **11** is turned on.

[0071] Inside the medal insertion slot **7**, a medal sensor (not shown) is provided, and it identifies the currency values such as medals that are inserted at the medal insertion slot **7**, and counts the inserted medals. Also, a hopper (not shown) is provided inside the medal payout opening **12** and it pays a prescribed number of medals from the medal payout opening **12**.

[0072] Note that, in the roulette game machine **1** according to the present embodiment, three types of JP including "MEGA", "MAJOR" and "MINI" are provided. In the case of "MEGA" JP, 0.15% of the credits bet in the game at all the gaming terminals **4** will be accumulated and stored. In the case of "MAJOR" JP, 0.20% of the bet credits will be accumulated and stored. In the case of "MINI" JP, 0.30% of the bet credits will be accumulated and stored. Then, in the case where any one of JP is won in the JP bonus game to be described below, the credits that are accumulated for the corresponding JP will be paid to a prescribed gaming terminal **4**. The JP amount display **15** displays the accumulated credits for "MEGA" JP among three types of JP. Note that the JP amount display **15** is provided at a top of the electroluminescence display **5**, such that its display content is visible from all the players who are playing at the gaming terminals **4**.

[0073] FIG. **6** shows one example of an image to be displayed on the display **8**.

[0074] As shown in FIG. **6**, during the roulette game, a bet screen **61** having a betting board **60** is displayed on the display **8**. The player can place a bet by operating a touchscreen **50** (see FIG. **10**) provided on a front surface of the display **8**, by using own chips (that are credited as an electronic information at the gaming terminal **4**).

[0075] First, the bet screen **61** displayed on the bet screen **61** during the roulette game will be described according to FIG. **6**. On the betting board **60**, 38 types of numbers "0", "00" and "1" to "36" are arranged and displayed in lattice shaped grids. Also, special bet areas for betting chips by specifying "odd, even numbers", "a color of the number plate (red or black)", or "a range of numbers ("1" to "12", for example)" are similarly arranged in lattice shaped grids.

[0076] On the lower side of the betting board **60**, a bet confirmation button **65**, bet buttons **66**, a payout counter **67** and a credit counter **68** are displayed.

[0077] The bet buttons **66** are buttons for betting chips on a bet area **72** (on the grids of the numbers and the marks or on the lines forming grids) specified by the player. The bet buttons **66** comprise four types including a 1 bet button **66**A, 5 bet button **66**B, 10 bet button **66**C, and 100 bet button **66**D.

[0078] The player specifies a betting position with a cursor **70** by directly touching the bet area **72** on the display **8** by a finger or the like. By touching the 1 bet button **66**A once in this state, the player can bet one chip (each time the 1 bet button **66**A is touched, the number of bets increases in the order of "1"-->"2"-->"3"--> . . .). Also, by touching the 5 bet button **66**B once in this state, the player can bet five chips (each time the 5 bet button **66**B is touched, the number of bets increases in the order of "5"-->"10"-->"15"--> . . .). Also, by touching the 10 bet button **66**C once in this state, the player can bet ten chips (each time the bet button **66**C is touched, the number of bets increases in the order of "10"-->"20"-->"30"--> . . .). Also, by touching the 100 bet button **66**D once in this state, the player can bet one hundred chips (each time the 100 bet button **66**D is touched, the number of bets increases in the order of "100"-->"200"-->"300"--> . . .).

[0079] After the above described betting operation, the betting content will be confirmed as the player touches the bet confirmation button **65**. Consequently, the betting content can be corrected if it is before touching the bet confirmation button **65**.

[0080] The payout counter **67** displays the number of bet chips and the payout credit in the last game. Here, the number to be obtained by subtracting the number of bet chips from the payout credit is the newly obtained credit by the player in the last game.

[0081] The credit counter **68** displays the current credits owned by the player. The credits will be decreased according to the number of bets (one credit for one bet). Also, when the payout of credits is provided by winning, the credits will be increased as much as the payout credit. Note that when the owned credit by the player becomes zero, the game is over.

[0082] Also, a bet time counter **69** is provided on the upper portion of the betting board **60**. The bet time counter **69** displays a remaining time in which the players can bet within the betting accepting period that is set previously. On the bet time counter **69**, "20" will be displayed at the start of the betting accepting period, and this number is decremented by one per each second. The acceptance of the betting is finished when this number becomes "0". Also, when the remaining time becomes five seconds, the ball entering device is activated and the ball **27** is entered onto the roulette wheel **22**. When the betting accepting period is ended, the game execution period is started.

[0083] When the betting accepting period is ended, the sub game bet screen **62** (FIG. **17**) will be displayed on the display **8** of the gaming terminal **4**. Here, the sub game bet screen **62** will be displayed only at the gaming terminals **4** which did not participate in the roulette game (main game).

[0084] FIG. **7** is a block diagram showing an internal configuration of the roulette game machine according to the present embodiment.

[0085] As shown in FIG. **7**, the roulette game machine **1** has the server **13**, the roulette device **2** and a plurality (9 sets in the present embodiment) of the gaming terminals **4**. The roulette device **2** and the gaming terminals **4** are connected to the server **13**. Note that an internal configuration of the roulette device **2** and an internal configuration of the gaming terminal **4** will be described below in detail.

[0086] The server **13** has a server CPU **81** for executing the overall control, a ROM **82**, a RAM **83**, a timer **84**, a LCD (Liquid Crystal Display) **32** connected through a LCD driving circuit **85**, and a keyboard **33**.

[0087] The server CPU **81** carries out various processings according to input signals supplied from each gaming terminals **4**, and data & programs stored in the ROM **82** & the RAM **83**. Also, the server CPU **81** transmits command signals to the gaming terminals **4** according to the processing results, to control each gaming terminal **4** by its initiative. Also, the server CPU **81** transmits control signals to the roulette device **2**, to control the shooting of the ball **27** and the rotation of the roulette wheel **22**.

[0088] The server CPU **81** sets up the betting accepting period and the game execution period previously for each roulette. The betting accepting period is a period in which the betting of the game media on the roulette game at each gaming terminal **4** can be accepted. The game execution period is a period for executing the roulette game after the betting accepting period. The server CPU **81** does not accept the betting on the roulette game after the betting accepting period is ended. However, the server CPU **81** accepts the betting on the sub game of which content is related to the roulette game (main game). The server CPU **81** controls the betting accepting period and the game execution period for each of the roulette game and the sub game. Also, the game execution period of each of the main game and the sub game may be set up to be an appropriate period. As long as the betting on the sub game is accepted after the ending of the betting accepting period for the main game, the betting accepting periods and the game execution periods may be set up at any timing. More specifically, as described above, the roulette game may be started as the roulette ball is shot five seconds before the end of the betting accepting period.

[0089] The ROM **82** is formed by a semiconductor memory or the like and stores programs that implement basic functions of the roulette game machine **1**, programs that execute the notification of the maintenance time and the setting & management of the notification condition, the payout rate data for the roulette game & the sub game (the payout credits with respect to the win per one chip), programs for controlling each gaming terminal **4**, etc.

[0090] On the other hand, the RAM **83** temporarily stores the betting information supplied from each gaming terminal **4**, the winning number of the roulette device **2** detected by the sensors, the accumulated JP credits, the data regarding the result of the processing executed by the server CPU **81** for the roulette game and the sub game, etc.

[0091] In addition, the timer **84** is connected to the server CPU **81**. The time information of the timer **84** is transmitted to the server CPU **81**. The server CPU **81** executes the control of the rotation of the roulette wheel **22** and the shooting of the ball **27** based on the time information of the timer **84**.

[0092] FIG. **8** is a schematic diagram showing the memory region of the ROM of the roulette game machine according to the present embodiment.

[0093] As shown in FIG. **8**, a roulette game payout memory area **82**A and a sub game payout memory area **82**B are secured in the ROM **82**. The roulette game payout memory area **82**A stores the payout rates regarding the roulette game. Note that the payout rates with respect to each bet area **72** stored in the roulette game payout memory area **82**A are determined previously as rates of "×2" to "×36" depending on the types of the betting ("straight bet", "cornet bet", "split bet", etc.).

[0094] In the sub game payout memory area **82**B, the payout data related to options to be bet in the sub game are stored. The content of the sub game is related to the main game (roulette game). For example, the sub game can be a game for predicting the pocket number into which the ball **27** will fall in the roulette game, a game for predicting whether a total bet of all the players participating in the roulette game is higher than a prescribed value or lower, a game for predicting whether a total payout to all the players participating in the roulette game is higher than a prescribed value or lower, etc.

[0095] Here, the case in which the sub game is a game for predicting the pocket number into which the ball **27** will fall in the roulette game will be described. In this case, the options to be bet by the players and the payout rates with respect to the options are stored in correspondence in the sub game payout memory area **82**B. For example, in the payout data of the sub game payout memory area **82**B, the payout rate of "×10" is set for the option "00 or 0" as the pocket number into which the ball will fall. Similarly, in the payout data of the sub game payout memory area **82**B, the payout rate "×2" is set for the options "1 to 6" and "13 to 18", the payout rate "×3" is set for the options "19 to 24" and "25 to 30", and the payout rate "×5" is set for the options "7 to 12" and "31 to 36".

[0096] In the present embodiment, the payout data is stored in the ROM **82** so that it is handled as a fixed value, but it is not limited to this embodiment. For example, the payout data may be stored in the RAM **83** such that the payout rate is varies randomly. Also, the payout rate may be calculated dynamically depending on the progress of the roulette game or the deviation of the winning pockets.

[0097] Also, in the sub game payout memory area **82**B, the payout data for a plurality of sub games may be stored. In this case, the sub game to be played by the players who could not participate in the roulette game may be selected by the server **13**, or may be selected by the players.

[0098] FIG. **9** is a schematic diagram showing the memory region of the RAM of the roulette game machine according to the present embodiment.

[0099] As shown in FIG. **9**, a betting information memory area **83**A, a winning number memory area **83**B, a "MINI" JP credit memory area **83**C, a "MAJOR" JP credit memory area **83**D, a "MEGA" JP credit memory area **83**E, a sub game winning option memory area **83**F, and a sub game betting period flag memory area **83**G are secured in the RAM **83**. The betting information memory area **83**A stores the betting information of the currently playing players. The players here include those players who are participating in the roulette game which is the main game and those players who are participating in the sub game. The winning number memory area **83**B stores the winning number of the roulette device **2** detected by the ball sensor **105**. The "MINI" JP credit memory area **83**C stores the credits accumulated for the "MINI" JP. The "MAJOR" JP accumulated credits memory area **83**D stores the credits accumulated for the "MAJOR" JP. The "MEGA" JP accumulated credits memory area **83**E stores the credits accumulated for the "MEGA" JP. The sub game winning option memory area **83**F stores the winning option of the sub game. The winning option of the sub game is determined in relation to the result of the roulette game stored in the winning number memory **83**B or the payout of the roulette game. The winning option of the sub game is any one of the options in the payout data stored in the winning number memory area **83**B of FIG. **8**. The sub game betting period flag memory area **83**G stores a flag indicating whether the betting on the sub game is acceptable or not. This sub game betting period flag is normally set to be off. When the betting accepting period for the roulette game is ended, the

sub game betting period flag is set to be on. When it becomes a timing at which the betting on the sub game becomes impossible, the sub game betting period flag is set to be off. The server CPU **81** accepts a request for starting the sub game from the gaming terminal **4** while proceeding with the usual roulette game. When this request is accepted, the server CPU **81** starts the interruption processing for the purpose of the sub game execution, and the sub game will be executed only while the sub game betting period flag is on.

[0100] Note that the game betting information is information regarding the betting by the player in the roulette game and the sub game. The game betting information regarding the roulette game is specifically information regarding the betting at the gaming terminals **4** such as the bet area **72** (see FIG. **6**) specified on the bet screen **61**, the number of chips which are bet (the number of bets), and the types of bets. The game betting information regarding the sub game is specifically an information regarding the betting at the other gaming terminals **4** such as the option specified at the sub game bet screen **62** and the number of chips which are bet (the number of bets).

[0101] FIG. **10** is a block diagram showing an internal configuration of the roulette device according to the present embodiment.

[0102] As shown in FIG. **10**, the roulette device **2** has a controller **109**, the pocket position detection circuit **107**, the ball entering device **104**, the ball sensor **105**, the wheel driving motor **106**, and a ball collecting device **108**.

[0103] The controller **109** has a CPU **101**, a ROM **102**, and a RAM **103**. The CPU **101** controls the shooting of the ball **27** and the rotation of the roulette wheel **22** according to the control signals supplied from the server **13**, and data & programs stored in the ROM **102** & the RAM **103**. In the RAM **103**, one of the control data **1** to **6** in the ROM **102** that is to be referred at a time of rotating the roulette wheel **22** and shooting the ball **27** is stored.

[0104] FIG. **11** is a schematic diagram showing a memory region of the ROM of the roulette device according to the present embodiment.

[0105] As shown in FIG. **11**, in the ROM **102**, the control data memory areas **102**A to **102**F are secured, and the control data **1** to **6** shown in FIG. **5** are stored. Also, in the ROM **102**, default control data to be referred at a time of the rotation of the roulette wheel **22** and the shooting of the ball **27** immediately after the activation of the roulette game machine **1** are stored.

[0106] The pocket position detection circuit **107** has a proximity sensor. It detects the rotation position of the roulette wheel **22** by detecting metal plates attached to the roulette wheel **22**.

[0107] The ball entering device **104** is for entering the ball **27** onto the roulette wheel **22** from the ball entering hole **36** (see FIG. **4**). The ball entering device **104** shoots the ball **27** at the initial speed set in the control data. Also, the ball entering device **104** shoots the ball **27** at timing according to the shooting delay time set in the control data. Namely, after the shooting delay time has elapsed since it is detected that a prescribed number pocket **23** ("00", for example) has passed a prescribed position (in front of the ball entering hole **36**, for example) by the pocket position detection circuit **107**, the ball **27** will be shot.

[0108] The ball sensor **105** is a device for detecting the number pocket **23** into which the ball **27** fell. The wheel driving motor **106** is for rotating the roulette wheel **22**. The wheel driving motor **106** stops the activation after the motor driving time that is set in the control data has elapsed since the start of the activation. The ball collecting device **108** is for collecting the ball **27** on the roulette wheel **22** after the game is over.

[0109] FIG. **12** is a block diagram showing an internal configuration of the gaming terminal according to the present embodiment. Note that 9 sets of the gaming terminals **4** have basically the same configuration, and an example of one gaming terminal **4** will be described in the following.

[0110] As shown in FIG. **12**, the gaming terminal **4** has a terminal controller **90** formed by a terminal CPU **91**, a ROM **92** and a RAM **93**. The ROM **92** is formed by a semiconductor memory or the like and stores programs that implement basic functions of the gaming terminal **4**, and various programs, data table, etc., that are necessary for controlling the gaming terminal **4**. Also, the RAM **93** is a memory for temporarily storing various data calculated by the terminal CPU **91**, the owned credits by the player (deposited at the gaming terminal **4**), the state of betting by the player, a flag F for indicating that it is under the betting accepting period or not, etc.

[0111] To the terminal CPU **91**, a payout button **5** is connected. The payout button **5** is a button to be pressed by the player usually when the game is over. When the payout button **5** is pressed by the player, the medals according to the credits acquired in the game by the player will be paid from the medal payout opening **12** (usually one medal for one credit).

[0112] The terminal CPU **91** executes various corresponding operations according to the operation signals outputted by the payout button **5** as a result of pressing of the payout button **5**. More specifically, the terminal CPU **91** executes various processings when signals associated with the pressing of the bet confirmation button **65** is inputted, according to the input signals and data & programs stored in the ROM **92** & the RAM **93**. The terminal CPU **91** transmits their processing results to the server CPU **81**.

[0113] Also, the terminal CPU **91** receives command signals from the sever CPU **81** and controls peripheral devices constituting the gaming terminal **4**, so as to proceed with the game. Also, the terminal CPU **91** executes various processings according to the above described input signals and data & programs stored in the ROM **92** & the RAM **93**, depending on the processing contents. The terminal CPU **91** controls the peripheral devices constituting the gaming terminal **4** according to the processing results, so as to proceed with the game.

[0114] Also, a hopper **94** is connected to the terminal CPU **91**. The hopper **94** pays a prescribed number of medals from the medal payout opening **12** (see FIG. **2**) according to a command signal from the terminal CPU **91**.

[0115] In addition, the display **8** is connected to the terminal CPU **91** through a LCD driving circuit **95**. The LCD driving circuit **95** has a program ROM, an image ROM, an image control CPU, a work RAM, VDP (Video Display Processor), and a video RAM. The program ROM stores an image controlling program and various selection tables regarding the display at the display **8**. The image ROM stores dot data for forming an image to be displayed at the display **8**, for example. The image control CPU makes the determination of an image to be displayed at the display **8** from the dot data in the image ROM, according to the image control program in the program ROM, based on parameters set up by the terminal CPU **91**. The work RAM is provided as a temporary memory device at a time of executing the image control program at the image control CPU. The VDP forms a display

image determined by the image control CPU and outputs it to the display **8**. Note that the video RAM is provided as a temporary memory device at a time of forming an image by the VDP.

[0116] Also, the touchscreen **50** is attached on the front surface of the display **8**. The operation information of the touchscreen **50** is transmitted to the terminal CPU **91**. At the touchscreen **50**, the betting operation by the player is carried out on the bet screen **61** or the sub game bet screen **62**. More specifically, the operation of the touchscreen **50** on the bet screen **61** is carried out for the selection of the bet area **72** and the input via the bet buttons **66** and the bet confirmation button **65**, etc. The operation of the touchscreen **50** on the sub game bet screen **62** is carried out for the selection of the options and the input via the bet buttons **66** and the bet confirmation button **65**, etc. When the touchscreen **50** is operated, its operation information is transmitted to the terminal CPU **91**. Then, according to that information, the betting information (the bet area and the number of bets specified on the bet screen **61**, or the option and the number of bets specified on the sub game bet screen **62**) is stored into the RAM **93**. In addition, this betting information is transmitted to the server CPU **81**, and stored in the betting information memory area of the RAM **83**.

[0117] In addition, a sound output circuit **96** and a speaker **10** are connected to the terminal CPU **91**. The speaker **10** generates various effect sounds at a time of making various effects according to the output signals from the sound output circuit **96**.

[0118] Also, a medal sensor **97** is connected to the terminal CPU **91**. The medal sensor **97** detects medals inserted from the medal insertion slot **7** (see FIG. **2**). At the same time, the medal sensor **97** counts the inserted medals, and transmits its result to the terminal CPU **91**. The terminal CPU **91** increases the amount of credits of the player that is stored in the RAM **93** according to the transmitted signal.

[0119] Also, a WIN lamp **11** is connected to the terminal CPU **91**. The terminal CPU **91** turns on the WIN lamp **11** in a prescribed color, when the bet on the bet screen **61** or the sub game bet screen **62** won or when the JP is won.

[0120] In the above described configuration, the server CPU **81**, the ROM **82**, the RAM **83**, the terminal CPU **91**, the ROM **92**, the RAM **93**, the CPU **101**, the ROM **102**, and the RAM **103** constitute a controller.

[0121] Next, the server gaming processing executed by the server CPU **81**, the gaming terminal gaming processing executed by the terminal CPU **91**, and the gaming processing executed by the CPU **101** of the roulette game machine **1** according to the present embodiment will be described with references to FIG. **13** to FIG. **15**. FIG. **13** to FIG. **15** are flow charts showing the gaming processing of the roulette game in the roulette game machine according to the present embodiment.

[0122] First, the gaming processing of the gaming terminal will be described according to FIG. **13** and FIG. **14**. The terminal CPU **91** judges whether any medals or coins are entered by the player or not according to the detection signal of the medal sensor **97** (step S**10**). In the case where it is judged that the medals or coins are not entered (step S**10**: NO), the processing of the step S**10** is repeated until it is judged that it is entered.

[0123] On the other hand, in the case where it is judged that the medals or coins are entered (step S**10**: YES), the terminal CPU **91** adds the credits according to the number of medals or coins entered (step S**11**). In this processing, the terminal CPU **91** stores the credit data corresponding to the entered medals or coins into the RAM **93**. Next, the terminal CPU **91** transmits a medal detection signal to the server **13** (step S**12**).

[0124] After that, the terminal CPU **91** displays the bet screen **61** shown in FIG. **6** on the display **8** of the gaming terminal **4** (step S**13**). Then, the terminal CPU **91** starts the measurement of the betting accepting period during which the bet can be placed (step S**14**). The player can bet on the bet area **72** predicted by the player (see FIG. **6**), by operating the touchscreen **50** during the betting accepting period. It is also possible for the player to participate in a middle of the game for which the betting accepting period has already started. However, the betting on the roulette game cannot be placed when the betting accepting period is ended. In the roulette game machine **1** according to the present embodiment, at most 9 persons can play the game. In addition, in the case where the current game is to be executed in succession to the last game, the acceptance of the betting operation will start immediately after the last game is over.

[0125] Next, the terminal CPU **91** receives the betting accepting period end signal indicating that the betting accepting period has ended from the server CPU **81** (step S**15**). As a result, the terminal CPU **91** displays an image indicating that the betting accepting period has ended on the display **8** of the gaming terminal **4**, and finishes accepting the betting operation on the touchscreen **50** (step S**16**).

[0126] After that, the terminal CPU **91** transmits the betting information (the specified bet area **72**, the bet number, and the type of betting) to the server **13** (step S**17**).

[0127] Next, the terminal CPU **91** receives a result of the processing for determining the JP bonus game which is executed by the server CPU **81**, from the server **13** (FIG. **14**: step **18**). The JP determination result contains information as to whether or not to execute a JP bonus game at each gaming terminal **4**. In the case of executing the JP bonus game, the determination result also contains information as to which gaming terminal **4** should win the JP (or all the gaming terminals **4** should lose) as well as which JP ("MEGA", "MAJOR", "MINI") should be won in the case of having the JP won.

[0128] After that, the terminal CPU **91** judges whether or not to execute the JP bonus game according to the result of the JP determination processing received at the step S**18** (step S**19**). In the case where it is judged that the JP bonus game is not to be executed (step S**19**: NO), the processing proceeds to the step S**21**.

[0129] On the other hand, in the case where it is judged that the JP bonus game is to be executed (step S**19**: YES), the terminal CPU **91** executes the prescribed selection-type JP bonus game and its game result (whether the JP is won or not) is displayed on the display **8** according to the determination result received at the step S**19** (step S**20**). After that, the processing proceeds to the step S**21**.

[0130] The terminal CPU **91** receives the credit payout result transmitted from the server CPU **81** (step S**21**). The credit payout result comprises the payout result of the normal game and the payout result of the JP bonus game.

[0131] Next, the terminal CPU **91** payouts the credits according to the payout result received at the step S**21** (step S**22**). More specifically, the terminal CPU **91** stores the credit data corresponding to the payout and the credit data corresponding to the payout of the accumulated JP (in the case where the JP is won) into the RAM **93**. Then, when the payout

button **48** is pressed, the medals corresponding to the credits stored in the RAM **93** (usually one medal for one credit) will be paid from the medal payout opening **9**.

[0132] After that, in the case where the gaming is to be continued at any of the gaming terminal **4**, the processing is returned to the step S**13**. The betting accepting period is started again, and a shift to the next game is made. On the other hand, in the case where the gaming is to be finished at all the gaming terminals **4**, the gaming processing is terminated.

[0133] Next, the gaming processing of the server will be described with references to FIG. **13** to FIG. **15**. First, the server CPU **81** receives the medal detection signal transmitted from the terminal CPU **91**, and judges whether the medals or coins are entered by the player or not (step S**30**). In the roulette game machine **1** according to the present embodiment, when the medals or coins are entered at any of the gaming terminals **4**, the medal detection signal is transmitted to the server CPU **81** from the terminal CPU **91** of the gaming terminal **4** at which the medals or coins are entered.

[0134] Next, the server CPU **81** starts the measurement of the betting accepting period from a timing at which the medals or coins are entered by the first participating player (step S**31**). The betting accepting period is a period during which a bet in the roulette game can be placed. The player who is participating in the game can bet on the bet area **72** predicted by the player by operating the touchscreen **50** during the betting accepting period.

[0135] Next, the server CPU **81** judges whether the remaining betting accepting period has become 5 seconds or not (step S**32**). The remaining betting accepting period is displayed on the bet time counter **69** (see FIG. **6**). In the case where it is judged that it has not reached the last 5 seconds (step S**32**: NO), this processing will be repeated.

[0136] On the other hand, in the case where it is judged that it has reached the last 5 seconds (step S**32**: YES), the server CPU **81** transmits the control signal for starting the operation of the roulette device **2** to the CPU **101** (step S**33**).

[0137] After that, the server CPU **81** judges whether the betting accepting period of the roulette game has ended or not (step S**34**). In the case where it is judged that the betting accepting period has not ended (step S**34**: NO), the processing will be repeated.

[0138] On the other hand, in the case where it is judged that the betting accepting period of the roulette game has ended (step S**34**: YES), the server CPU **81** transmits the betting accepting period end signal to the terminal CPU **91** (step S**35**). By receiving this end signal, the terminal CPU **91** ends the acceptance of the betting operation at the gaming terminal **4**. At this point, the server CPU **81** sets the sub game betting period flag of the sub game betting period flag memory area **83**G in the RAM **83** ON (step S**36**). In the case where the sub game betting period flag is ON, it becomes possible to accept the betting on the sub game by the interruption processing from the gaming terminal **4** which did not participate in the roulette game.

[0139] Next, the server CPU **81** receives the betting information (the specified bet area **72**, the bet number, and the type of betting) at each gaming terminal **4** from the terminal CPU **91**, and stores it into the betting information memory area **83**A of the RAM **83**.

[0140] After that, the server CPU **81** executes the JP accumulation processing according to the total credits bet at all the gaming terminals that are received at the step S**37** (step S**38**).

[0141] Next, the server CPU **81** executes the JP determination processing (FIG. **14**: step S**39**). In this processing, the server CPU **81** determines whether to execute the JP bonus game about the roulette game at each gaming terminal **4** or not, by using a random number value sampled by a sampling circuit or the like. In addition, the server CPU **81** determines which gaming terminal **4** is to win the JP (or all the gaming terminals **4** are to lose) in the case where it is determined to execute the JP bonus game. Also, the server CPU **81** determines which JP ("MEGA", "MAJOR", or "MINI") is to be won in the case of having the JP won.

[0142] Next, the server CPU **81** transmits the JP determination result to each gaming terminal **4**, according to the processing of the step S**39** (step S**40**). After that, the server CPU **81** transmits a request signal for a detection signal of the ball sensor **105** to the roulette device **2** (step S**41**).

[0143] Then, when the result of the sub game related to the roulette game is ascertained, the server CPU **81** sets the sub game betting period flag OFF (step S**42**). In the present embodiment, the sub game for predicting "which pocket number does the ball fall into?" is carried out, so that a timing for setting the sub game betting period flag OFF is set to be before the ball **27** stops within the number pocket **23** completely.

[0144] In response to the request for the detection signal of the ball sensor that is transmitted at the step S**41**, the roulette device **2** transmits the detection signal of the ball sensor **105** to the server CPU **81**. Then, the server CPU **81** receives the detection signal (step S**43**).

[0145] Then, the server CPU **81** judges which number pocket **23** has the ball **27** fell into (step S**44**). Next, the server CPU **81** judges whether the bet placed at each gaming terminal **4** has won or not, based on the betting information of each gaming terminal **4** received at the step S**36** and the number pocket judged at the step S**44** (step S**45**).

[0146] After that, the server CPU **81** executes the payout calculation processing for the roulette game (step S**46**). In the payout calculation processing, the server CPU **81** firstly recognizes the number of winning bets for each gaming terminal **4**. Then, the server CPU **81** calculates the total payout credits for each gaming terminal **4** by using the payout rate (credits to be paid per one bet) that is stored in the roulette game payout memory area **82**A of the ROM **82**.

[0147] Next, the server CPU **81** judges whether the bet placed at each gaming terminal **4** has won or not, based on the betting information of each gaming terminal **4** for the sub game and the number pocket judged at the step S**44** (step S**47**).

[0148] In addition, the server CPU **81** executes the payout calculation processing for the sub game (step S**48**). In the payout calculation processing, the server CPU **81** first recognizes the number of winning bets for each gaming terminal **4**. Then, the server CPU **81** calculates the total payout credits to be paid for each gaming terminal **4** by using the payout rate (credits to be paid per one bet) of each option that is stored in the sub game payout memory area **82**B of the ROM **82**.

[0149] Next, the server CPU **81** executes the transmission processing of the credit payout result according to the payout calculation processings of the steps S**46** and S**48** and the JP payout result according to the JP bonus game determination processing of the step S**39** (Step S**49**). More specifically, the server CPU **81** outputs the credit data corresponding to the payout credits of the roulette game and the sub game to the terminal CPU **91** of the winning gaming terminal **4**.

[0150] After that, the server CPU **81** activates the ball collecting device **108** provided beneath the roulette wheel **22** by transmitting the control signal to the roulette device **2**, and collects the ball **27** on the roulette wheel **22** (step S**50**). The collected ball **27** will be entered onto the roulette wheel **22** again in the subsequent games.

[0151] Next, as shown in FIG. **15**, the server CPU **81** executes a confirmation processing for confirming whether the condition for changing the control data **1** to **6** used for the rotation of the roulette wheel **22** and the shooting of the ball **27** has been met or not (step S**51**). Then, the server CPU **81** transmits the setting signal for requesting the setting of the control data **1** to **6** to the CPU **101** of the roulette device **2** (step S**52**).

[0152] Here, specifically, the server CPU **81** judges whether a prescribed time (0-th minute of each hour, in the present embodiment) has passed or not in the confirmation processing of the step S**51**. In the case where it is confirmed that the prescribed time has not passed yet, the server CPU **81** transmits a control signal indicating that the condition for changing is not met to the CPU **101** of the roulette device **2**. On the other hand, in the case where it is confirmed that the prescribed time has already passed, the server CPU **81** transmits a control signal indicating that the condition for changing is met to the CPU **101** of the roulette device **2**.

[0153] Next, the server CPU **81** receives the control data **1** to **6** to be referred in the next game from the CPU **101** of the roulette device **2** and stores it in the RAM **83** (step S**53**). After the processing of the step S**53**, this sub routine will be terminated.

[0154] Here, the timing for setting the sub game betting period flag ON or OFF is not limited to the timing described with references to FIG. **13** to FIG. **15**, and changed according to the types of the main game and the sub game. For example, in the case of the sub game for predicting "which pocket number does the ball fall into?", it is preferable to set the timing for setting the sub game betting period flag OFF to be before the timing at which the ball **27** stops in the number pocket **23** completely. On the other hand, in the case of the sub game for predicting "whether a total payout amount to all the players participating in the roulette game is greater than 1000 chips or not?", the timing to set the sub game betting period flag OFF may be after the ball **27** stops in the number pocket **23** completely as long as it is before the payout amounts for all the players are displayed on the display **8**. In this way, it is preferable to set the timing for setting the sub game betting period flag ON or OFF appropriately according to the type of the sub game.

[0155] Next, the gaming processing of the roulette device **2** will be described with references to FIGS. **13** to **15**. Firstly, when the operation signal from the roulette device **2** is received from the server **13**, the CPU **101** rotates the roulette wheel **22** by driving the wheel driving motor **106** for the motor driving time set in the current control data (step S**60**).

[0156] Then, the CPU **101** judges whether or not a prescribed time (20 seconds, for example) has elapsed since the rotation of the roulette wheel **22** has started (step S**61**). In the case where it is judged that the prescribed time has not elapsed (step S**61**: NO), this processing will be repeated.

[0157] On the other hand, in the case where it is judged that the prescribed time has elapsed (step S**61**: YES), the CPU **101** judges whether a specific pocket **23** ("00", for example) has passed a specific position (in front of the ball entering hole **36**, for example) or not by the pocket position detection circuit **107** (step S**62**). In the case where it is judged that the specific pocket **23** has not passed the specific position (step S**62**: NO), this processing will be repeated.

[0158] Also, in the case where it is judged that the specific pocket **23** has passed the specific position (step S**62**: YES), the CPU **101** enters the ball **27** by activating the ball entering device **104** after the delay time set in the current control data has elapsed (step S**63**). At this point, the ball entering device **104** enters the ball **27** at the initial speed set in the control data.

[0159] After that, the CPU **101** receives the request signal described at the step S**41** from the server **13** (FIG. **14**: step S**64**). In this way, the CPU **101** transmits the detection signal of the ball sensor **105** to the server **13** (step S**65**).

[0160] Next, as shown in FIG. **15**, the CPU **101** receives the control data setting signal transmitted from the server CPU **81** of the server **13** (step S**66**). Then, the CPU **101** determines one of the control data **1** to **6** to be referred in the next game according to the received control data setting signal (step S**67**).

[0161] Herein, in the case where the control data setting signal received at the step S**66** indicates that the control data changing condition has been met, the CPU **101** judges that it is necessary to change the control data to be referred in the next game. And the CPU **101** selects the control data different from the current control data. Note that the CPU **101** uses a random number value sampled by the sampling circuit or the like to select one of the control data **1** to **6** to be referred in the next game.

[0162] On the other hand, in the case where the control data setting signal received at the step S**66** indicates that the changing condition is not met, the CPU **101** judges that it is unnecessary to change the control data to be referred in the next game, and refers to the current control data in the next game.

[0163] Then, the CPU **101** transmits the control signal including one of the control data **1** to **6** to be referred in the next game determined at the step S**67** to the server CPU **81** of the server **13** (step S**68**). After the processing of the step S**68**, this sub routine will be terminated.

[0164] Next, the server gaming processing executed by the server CPU **81** and the gaming terminal gaming processing executed by the terminal CPU **91** of the roulette game machine **1** according to the present embodiment will be described with reference to FIG. **16**. FIG. **16** is a flow chart showing the gaming processing of the sub game of the roulette game machine according to the present embodiment.

[0165] First, the gaming processing of the gaming terminal **4** will be described according to FIG. **16**. The gaming terminal **4** that executes each processing shown in FIG. **16** is not betting on the roulette game (main game).

[0166] First, according to the control of the server CPU **81**, the terminal CPU **91** displays the sub game bet screen **62** shown in FIG. **17**, on the display **8** of the gaming terminal **4** (step S**201**). This sub game bet screen **62** is a screen for betting on the sub game of which content is related to the main game. Here, it is the screen for betting on the sub game, but there are also cases where it is not necessary to bet credits.

[0167] On the sub game bet screen **62**, the options in the sub game, the payout rates of the options, and the bet buttons **63** for the options are displayed as set in relation to each other. The combination of the options, the payout rates and the bet buttons **63** are displayed as many as the number of the options. In an example shown in FIG. **17**, seven options are

shown. In addition, in correspondence with the options, the payout rates and the bet buttons **63**A to **63**G are shown on the sub game bet screen **62**.

[0168] In addition, on this sub game bet screen **62**, similarly as the bet screen **61**, a bet confirmation button **65**, bet buttons **66**, a payout counter **67** and a credit counter **68** are displayed on the display **8**. The bet buttons **66** are buttons for betting on the options (bet buttons **63**A to **63**G) specified by the player. The bet buttons **66** comprise four types including a 1 bet button **66**A, 5 bet buttons **66**B, 10 bet button **66**C, and 100 bet button **66**D.

[0169] The player first specifies the option to be bet by touching the bet buttons **63**A to **63**G with a finger or the like. By touching the 1 bet button **66**A once in this state, the player can bet one chip (each time the 1 bet button **66**A is touched, the number of bets increases in the order of "1"-->"2"-->"3"--> . . .). Also, by touching the 5 bet button **66**B once in this state, the player can bet five chips (each time the 5 bet button **66**B is touched, the number of bets increases in the order of "15"-->"10"-->"15"--> . . .). Also, by touching the 10 bet button **66**C once in this state, the player can bet ten chips (each time the 10 bet button **66**C is touched, the number of bets increases in the order of "10"-->"20"-->"30"--> . . .). Also, by touching the 100 bet button **66**D once in this state, the player can bet one hundred chips (each time the 100 bet button **66**D is touched, the number of bets increases in the order of "100"-->"200"-->"300"--> . . .).

[0170] After the above described betting operation, the betting content in the sub game will be confirmed as the player touches the bet confirmation button **65**. Consequently, the betting content can be corrected if it is before touching the bet confirmation button **65**.

[0171] The payout counter **67** displays the number of bets and the payout credits in the last game. Here, the number that can be obtained by subtracting the number of bets from the payout credits is the credits obtained by the player in the last game.

[0172] The credit counter **68** displays the number of credits currently owned by the player. The credits will be decreased according to the number of bets (one credit for one bet). Also, when the credits are paid out as a result of the winning, the credits will be increased as much as the payout credits. Note that when the credits owned by the player become zero, the game is over.

[0173] When the sub game bet screen shown in FIG. **17** is displayed at the gaming terminal **4**, the terminal CPU **91** starts accepting the bets on the sub game (step S**202**). During this period, the player can bet desired credits on the option of the sub game by touching the bet buttons **63**A to **63**G and the bet buttons **66** as described above.

[0174] When the bet confirmation button **65** is touched, the terminal CPU **91** transmits the bet number and the selected option on the sub game bet screen **62** as the betting information to the server **13** (step S**203**).

[0175] After that, according to the control of the server CPU **81**, the terminal CPU **91** receives a signal that indicates the betting period for the sub game is ended from the server **13** (step S**204**). When the betting period for the sub game is ended, the terminal CPU **91** exits the display of the sub game bet screen **62** of FIG. **17** on the display **8** of the gaming terminal **4** (step S**205**).

[0176] Next, the gaming processing of the server regarding the sub game will be described with reference to FIG. **16**. The gaming processing of the server shown in FIG. **16** is processed in parallel to the gaming processing of the server regarding the main game described with references to FIG. **13** to FIG. **15**.

[0177] First, the server CPU **91** judges whether the sub game betting period flag stored in the sub game betting period flag memory area **83**G of the RAM **83** is ON or not (step S**251**). This sub game betting period flag is set by the server CPU **91** during the main game described with references to FIG. **13** to FIG. **15**. The server CPU **91** sets this flag ON while it is possible to bet on the sub game, and sets it OFF while it is not possible to bet. In the case where the sub game betting period flag is not ON, the processing waits until the sub game betting period flag becomes ON.

[0178] When the sub game betting period flag becomes ON, the server CPU **91** displays the sub game bet screen **62** at the gaming terminal **4** (step S**252**). More specifically, the server CPU **91** extracts the gaming terminals **4** at which the betting on the roulette game (main game) has not been placed, and transmits a command for displaying the sub game bet screen **62** shown in FIG. **17** to the extracted gaming terminals **4**.

[0179] When the betting information entered at this sub game bet screen **62** is transmitted to the server **13**, the server CPU **91** receives this betting information from the gaming terminal **4** (step S**253**). In addition, the server CPU **91** judges whether the sub game betting period flag is OFF or not (step S**254**). In the case where the sub game betting period flag is not OFF, the server CPU **91** returns the processing to the step S**253** and waits for a new betting information.

[0180] On the other hand, when it is judged that the sub game betting period is OFF, the server CPU **91** proceeds the processing to the step S**255**. The server CPU **91** transmits a command for exit the display of the sub game bet screen **62** on the display **8** to the gaming terminal **4** (step S**255**).

[0181] As described, the gaming machine **1** and its playing method according to the present embodiment, even when there is a period in which the players cannot make bets during the execution of the main game offered by the gaming machine **1**, the sub game of which content is related to the main game is provided to those players who are not betting on the main game during that period. In this way, the waiting time of the players can be eliminated and a gaming machine in which players can make bets any time can be provided. Also, it is easy to participate in the game so that it is possible to attract attentions of many players.

[0182] Also, the gaming machine **1** and its playing method according to the present embodiment provide a game of which content is related to the main game as the sub game, so that the interests of the players in the main game can be aroused. In this way, the gaming machine according to the present embodiment can make it easier for many players to participate in main game, so that it is possible to provide lively games.

[0183] Also, the gaming machine **1** and its playing method according to the present embodiment may allow the player to select a favorite sub game among a plurality of sub games and play it. In this way, the player can select a game which is easier to participate, so that the player can participate in the game easily.

[0184] Also, the gaming machine **1** according to the present embodiment, the period in which the bet on the sub game can be placed is judged by using the sub game betting period flag, but it is not limited to this method. Depending on the rules of the main game, the game execution period of the main game

may be set as a period in which the betting on the main game cannot be placed. In this case, this game execution period may be set as a period in which the betting on the sub game can be placed. Also, in the case where the sub game is a game for predicting the total payout amount of all the players who bet in the main game, it may be made possible to bet in the sub game even when the result of the main game is calculated, as long as the total payout amount of all the players is not notified.

[0185] Also, in the gaming machine **1** and its playing method according to the present embodiment, the options and the payout rates are displayed in the sub game and the player can bet credits on these options. In this way, the player can receive the payout according to the number of credits bet and the payout rate.

[0186] In this way, a period in which the bet on the sub game can be placed may be changed arbitrarily according to the types of the main game and the sub game. By changing the timing for setting the sub game betting period flag shown in FIG. **13** and FIG. **14** ON or OFF, it is possible to deal with any types of the main game and the sub game.

[0187] Although the embodiments of the present invention have been described hereinabove, the embodiments are only showing specific examples, and do not particularly limit the present invention. Accordingly, the specific configuration of each means or the like can be modified in design appropriately. In addition, the effects described in the embodiments of the present invention are only listing the most preferable effects that can arise from the present invention. For this reason, the effects produced by the present invention are not limited to those described in the embodiments of the present invention.

[0188] Also, in the detailed description above, the characteristic portions are mainly described in order to make the present invention easily understandable. The present invention is not limited to the embodiment described in the detailed description above, and can be applied to the other embodiments, and its range of application is wide. Also, the terms and the terminology used in the present specification are used only for the purpose of explaining the present invention precisely, and not used for the purpose of limiting the interpretation of the present invention. Also, for those skilled in the art, it should be easy to contemplate other configurations, systems, methods, etc., that are contained in the concept of the present invention, from the concept of the invention described in the present specification. Consequently, the description of the scope of claims should be construed as containing equivalent configurations within a range of not deviating from a range of the technical ideas of the present invention.

[0189] In addition, in the foregoing detail description, the characteristic portions of the present invention have been mainly described in order to make the present invention easily understandable. The present invention is not limited to the embodiments described above in the foregoing detail description, and can be applied to other embodiments, and its applicable range is wide. Moreover, the terms and the terminology used in the present specification are used for the purpose of precisely explaining the present invention, and not used for the purpose of limiting interpretations of the present invention. Further, it should be easy for those skilled in the art to contemplate other configurations, systems, methods, etc., which are included in the concept of the present invention, from the concept of the present invention described in the present specification. For this reason, the description of the appended claims must be construed as containing equivalent configurations within a range of not departing from a range of the technical ideas of the present invention.

Modified Embodiment

[0190] FIG. **18** is a flow chart showing a control method of the gaming machine **1** according to the modified case of the embodiment of the present invention. The gaming machine **1** according to the modified case of the embodiment of the present invention differs from the gaming machine **1** according to the embodiment described above in that the payout rate of the sub game can be determined based on the player's operation. Namely, only the options in each sub game will be stored in the sub game winning option memory area **83**F of the RAM **83** of the gaming machine **1**. The payout rate of the sub game is not previously stored on the sub game payout memory area **82**B of the ROM **82** in the server **13** (the sub game payout memory area **82**B is not provided in this embodiment).

[0191] First, the betting of the game media in the roulette game will be accepted during the betting accepting period at a plurality of gaming terminals **4** (step S**301**). Then, whether the betting acceptance on the roulette game is ended or not is judged (step S**302**). When it is judged that the betting acceptance is not ended, the processing returns to the step S**301** and the betting on the roulette game is accepted. On the other hand, when it is judged that the betting acceptance on the roulette game is ended (more specifically, when it is in the game execution period), the gaming machine **1** proceeds with the roulette game (step S**303**). Here, the game media are cash, chips, medals, etc., that are used at the gaming machine **1**.

[0192] When the betting accepting period on the roulette game is ended, the betting on the sub game will be accepted at a plurality of gaming terminals **4** (step S**304**). The gaming machine **1** displays the options at the gaming terminals **4** at which the bettings on the roulette game has not been placed (step S**305**). The options are targets of the betting of the sub game and the contents of the options are related to a result of the roulette game.

[0193] Next, when the betting information is determined at the gaming terminal **4**, the betting information is transmitted to the server **13**. The server **13** receives the betting information from the gaming terminal **4** (step S**306**). In addition, the server **13** determines the payout rate of the option by a prescribed processing, and displays the payout rate on the display **8** of the gaming terminal **4** (step S**307**). The payout rate may be determined by the gaming terminal **4**. In this case, the gaming terminal **4** transmits the payout rate to the server **13**. The payout rate is payout credits per one gaming media when the bet gaming media wins.

[0194] Next, whether the roulette game is over or not is judged (step S**308**). In the case where it is judged that the roulette game is not over, the processing is returned to the step S**304** and the betting on the sub game at the gaming terminal **4** which is not participating in the roulette game is accepted.

[0195] On the other hand, in the case where it is judged that the roulette game is over, the result of the roulette game is acquired (step S**309**). Here, the result of the roulette game is a pocket number **23** into which the ball **27** fell. Next, the gaming machine **1** determines the winning option of the sub game according to the result of the roulette game acquired at the step S**309**, and calculates the payout credits for this win-

ning option. In addition, the gaming machine **1** transmits the calculated payout credits to the gaming terminal **4** (step S**310**).

[0196] As described, according to the modified case of the present embodiment, the payout rate of the sub game is determined by a prescribed processing. In this way, it is possible to provide games with higher entertainment characteristics to the players.

[0197] Next, the server gaming processing executed by the server CPU **81** and the gaming terminal gaming processing executed by the terminal CPU **91** of the roulette game machine **1** according to the modified embodiment will be described with reference to FIG. **19**. FIG. **19** is a flow chart showing the gaming processing of the sub game according to this modified embodiment.

[0198] First, the gaming processing of the gaming terminal will be described according to FIG. **19**. The gaming terminal **4** that executes each processing shown in FIG. **19** is not betting on the roulette game (main game).

[0199] First, according to the control of the server CPU **81**, the terminal CPU **91** displays the sub game bet screen **62***a* shown in FIG. **20**, on the display **8** of the gaming terminal **4** (step S**401**). This sub game bet screen **62***a* is a screen for betting on the sub game of which content is related to the main game.

[0200] Options of the sub game, a game area **64** for determining the payout rate of the selected options, and the bet buttons **63** for the options are displayed on the sub game bet screen **62***a* as set in relation to each other. In correspondence to the options, the bet buttons **63**A to **63**G are shown on the sub game bet screen **62***a*. The combination of the options and the bet buttons **63** are shown as many as the number of the options. In an example shown in FIG. **20**, seven options are shown.

[0201] In addition, on the sub game bet screen **62***a* shown in FIG. **20**, a slot machine **64**D is displayed in order to determine the payout rate of each option. The terminal CPU **91** of the gaming terminal **4** rearranges symbols on each column of the slot machine **64**D. When the player touches a stop button **64**B, the terminal CPU **91** stops scrolling of a left column. When the player touches a stop button **64**C, the terminal CPU **91** stops scrolling of a center column. When the player touches a stop button **64**D, the terminal CPU **91** stops scrolling of a right column. At a result, in the case where it becomes a prescribed symbol arrangement such as symbols are aligned on a row, the payout rate will be determined corresponding to the arrangement.

[0202] In addition, on the sub game bet screen **62***a*, similarly as the bet screen **61**, a bet confirmation button **65**, bet buttons **66**, a payout counter **67** and a credit counter **68** are displayed on the display **8**.

[0203] When the sub game bet screen **62***a* shown in FIG. **20** is displayed at the gaming terminal **4**, the terminal CPU **91** starts accepting the bets in the sub game (step S**402**). During this period, the player can bet credits on the option of the sub game by touching the bet buttons **63**A to **63**G and the bet buttons **66** as described above.

[0204] In addition, the terminal CPU **91** executes a payout determination processing to determine a payout rate for the selected option (step S**403**). In the example shown in FIG. **20**, the payout determination processing is executed by using the slot machine **64**D. When the bet confirmation button **65** is touched, the terminal CPU **91** transmits the number of bets and the selected option on the sub game bet screen **62***a* as the betting information to the server **13** (step S**404**). At this point, the terminal CPU **91** also transmits the payout rate determined by the above payout rate determination processing as the betting information to the server **13**.

[0205] After that, according to the control of the server CPU **81**, the terminal CPU **91** receives a signal that indicates the betting period for the sub game is ended from the server **13** (step S**405**). When the betting period for the sub game is ended, the terminal CPU **91** exits the display of the sub game bet screen **62***a* of FIG. **20** on the display **8** of the gaming terminal **4** (step S**406**).

[0206] Next, the gaming processing of the server regarding the sub game will be described with reference to FIG. **19**. The gaming processing of the server shown in FIG. **19** is processed in parallel to the gaming processing of the server regarding the main game described with references to FIG. **13** to FIG. **15**.

[0207] First, the server CPU **91** judges whether the sub game betting period flag stored in the sub game betting period flag memory area **83**G of the RAM **83** is ON or not (step S**451**). This sub game betting period flag is set by the server CPU **91** during the main game described with references to FIG. **13** to FIG. **15**. The server CPU **91** sets this flag ON while it is possible to bet on the sub game, and sets it OFF while it is not possible to bet. In the case where the sub game betting period flag is not ON, the processing waits until the sub game betting period flag becomes ON.

[0208] When the sub game betting period flag becomes ON, the server CPU **91** displays the sub game bet screen **62***a* at the gaming terminal **4** (step S**452**). More specifically, the server CPU **91** extracts the gaming terminals **4** at which the betting on the roulette game (main game) has not been placed, and transmits a command for displaying the sub game bet screen **62***a* shown in FIG. **20** to the extracted gaming terminals **4**.

[0209] When the betting information entered at this sub game bet screen **62***a* is transmitted to the server **13**, the server CPU **91** receives this betting information from the gaming terminal **4** (step S**453**). In addition, the server CPU **91** judges whether the sub game betting period flag is OFF or not (step S**454**). In the case where the sub game betting period flag is not OFF, the server CPU **91** returns the processing to the step S**453** and waits for a new betting information.

[0210] On the other hand, when it is judged that the sub game betting period is OFF, the server CPU **91** proceeds the processing to the step S**455**. The server CPU **91** transmits a command for exit the display of the sub game bet screen **62***a* on the display **8** to the gaming terminal **4** (step S**455**).

[0211] Here, in the case where the server CPU **81** determines the payout rate of the sub game, the payout rate is determined by executing the above prescribed payout determination processing when the betting information of the sub game is received from the gaming terminal **4** at the step S**453**, and it is displayed at the gaming terminal **4**.

[0212] As described, according to the present modified embodiment, it is possible to determine the payout rate of the sub game by a prescribe processing. In this way, it is possible to provide games with higher entertainment characteristics to the players. Also, the server **13** may determine the payout rate to be assigned to each player by accounting for the total payout or the winning log. In this way, it is possible to assign the payout more evenly.

[0213] Note that, as described above, it is possible to make the player to select the sub game to be played by providing a

plurality of sub games. In this case, at the step S**201** of FIG. **16** or the step S**401** of FIG. **19**, a sub game selection screen **62***b* of FIG. **21** is displayed on the display **8** first. Here, three options **80**A to **80**C of the sub game will be displayed. In order to attract the interests of the player to the slot game (main game), the contents of the three sub games are all related to the slot game. The player selects one from the options. For example, when the option **80**A of FIG. **21** is selected, it proceeds to the sub game bet screen **62** or **62***a* of FIG. **17** or FIG. **20**.

What is claimed is:

1. A gaming machine comprising:

a game execution device for executing a first game;

a plurality of gaming terminals at which operations by players for the first game or a second game related to the first game are inputted; and

a game controller connected to the gaming terminals, operable to:

(a) set a betting accepting period and a game execution period for the first game,

(b) accept the player's bet of game media on the first game during the betting accepting period,

(c) execute the first game at the game execution device during the game execution period, and

(d) execute the second game at time other than the betting accepting period at the gaming terminal at which the player's bet on the first game is not placed.

2. The gaming machine according to claim **1**, wherein the game controller is operable to:

(a) store plural types of the second game, and

(b) make the player to select any one of the plural types of the second game at the gaming terminal at which the player's bet on the first game is not placed.

3. A gaming machine comprising:

a game execution device for executing a first game;

a plurality of gaming terminals at which operations by players for the first game or a second game related to the first game are inputted;

a memory for storing payout data in which options on which the player's bet can be placed on the second game and payout rates for respective options are set in relation;

a game controller connected to the gaming terminals, operable to:

(a) set a betting accepting period and a game execution period for the first game,

(b) accept the player's bet of game media on the first game during the betting accepting period,

(c) execute the first game at the game execution device during the game execution period,

(d) display the options and the payout rates according to the payout data at time other than the betting accepting period at the gaming terminal at which the player's bet on the first game is not placed, and

(e) accept the player's bet of the game media on any of the options in the second game at the gaming terminal at which the player's bet in the first game is not placed.

4. The gaming machine according to claim **3**, wherein the game controller is operable to:

(a) store plural types of the second game, and

(b) make the player to select any one of the plural types of the second game at the gaming terminal at which the player's bet on the first game is not placed.

5. A gaming machine comprising:

a game execution device for executing a first game;

a plurality of gaming terminals at which operations by players for the first game or a second game related to the first game are inputted; and

a game controller connected to the gaming terminals, operable to:

(a) set a betting accepting period and a game execution period for the first game,

(b) accept the player's bet of game media on the first game during the betting accepting period,

(c) execute the first game at the game execution device during the game execution period,

(d) accept the player's bet of the game media on any of options in the second game at time other than the betting accepting period at the gaming terminal at which the player's bet in the first game is not placed,

(e) determine a payout rate for one of the options when the bet on any of the options for the second game is accepted, and

(f) display the payout rate of the accepted option at the gaming terminal at which the player's bet on the first game is not placed.

6. The gaming machine according to claim **5**, wherein the game controller is operable to:

(a) store plural types of the second game, and

(b) make the player to select any one of the plural types of the second game at the gaming terminal at which the player's bet on the first game is not placed.

7. A playing method of a gaming machine having a plurality of gaming terminals at which operations by players for a first game executed at a game execution device or a second game related to the first game are inputted, comprising:

betting game media on the first game at the gaming terminal within a betting accepting period set for the first game;

executing the first game at the game execution device within a game execution period set for the first game; and

executing the second game at time other than the betting accepting period at the gaming terminal at which the player's bet on the first game is not placed.

8. The playing method of a gaming machine according to claim **7**, further comprising:

making the player to select any one of plural types of the second game stored in the gaming machine at the gaming terminal at which the player's bet on the first game is not placed.

9. A playing method of a gaming machine having a game execution device and a plurality of gaming terminals at which operations by players for a first game executed at the game execution device or a second game related to the first game are inputted, comprising:

betting game media on the first game at the gaming terminal within a betting accepting period set for the first game;

executing the first game at the game execution device within a game execution period set for the first game;

displaying betting options and payout rates of the options for the second game at time other than the betting accepting period at the gaming terminal at which the player's bet on the first game is not placed; and

accepting bets of the game media on any of the options in the second game, at those gaming terminals at which bets in the first game are not placed.

10. The playing method of a gaming machine according to claim **9**, further comprising:

making the player to select any one of plural types of the second game stored in the gaming machine at the gaming terminal at which the player's bet on the first game is not placed.

11. A playing method of a gaming machine having a game execution device and a plurality of gaming terminals at which operations by players for a first game executed at the game execution device or a second game related to the first game are inputted, comprising:

betting game media on the first game at the gaming terminal within a betting accepting period set for the first game;

executing the first game at the game execution device within a game execution period set for the first game;

accepting the player's bet of the game media on any of options for the second game at time other than the betting accepting period at the gaming terminal at which the player's bet on the first game is not placed;

determining a payout rate for one of the options when the bet on any of the options for the second game is accepted; and

displaying the payout rate of the accepted option at the gaming terminal at which the player's bet on the first game is not placed.

12. The playing method of a gaming machine according to claim **11**, further comprising:

making the player to select any one of plural types of the second game stored in the gaming machine at the gaming terminal at which the player's bet on the first game is not placed.

* * * * *