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(54) **ROULETTE GAMING MACHINE CHANGING PAYOUT RATIO SET FOR SPECIFIC BET TYPE AND PLAYING METHOD OF ROULETTE GAME**

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(57) **ABSTRACT**

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In a unit game that is repeatedly executed, an "ODDS UP determining process" is executed in which a bet type to be subjected to ODDS UP is randomly determined, among all bet types. When the "ODDS UP determining process" is executed, one or more bet types are determined as a specific bet type, or no bet type is determined as a specific bet type. When there is a specific bet type determined in the "ODDS UP determining process," a payout ratio set for the specific bet type is switched from a base ratio to a specific ratio higher than the base ratio. Thereby, when a bet is made in the specific bet type determined in the "ODDS UP determining process" and a winning is made in this bet type, a payout to be awarded to a player is larger.

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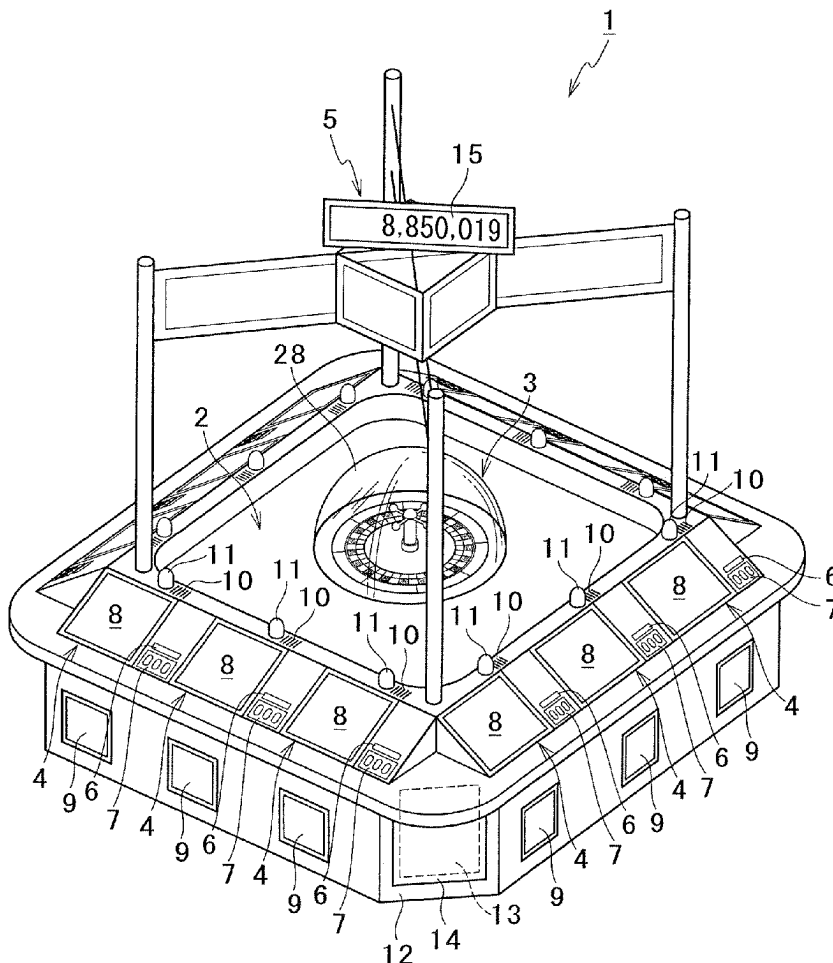
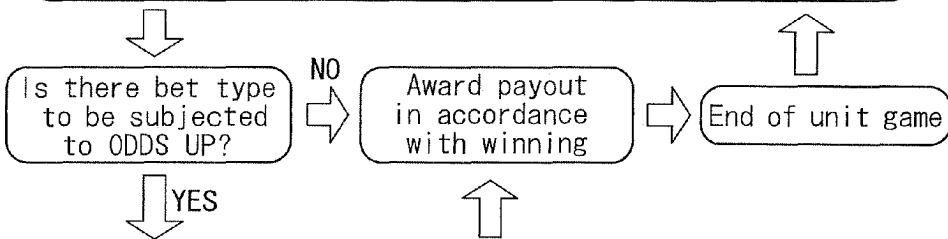
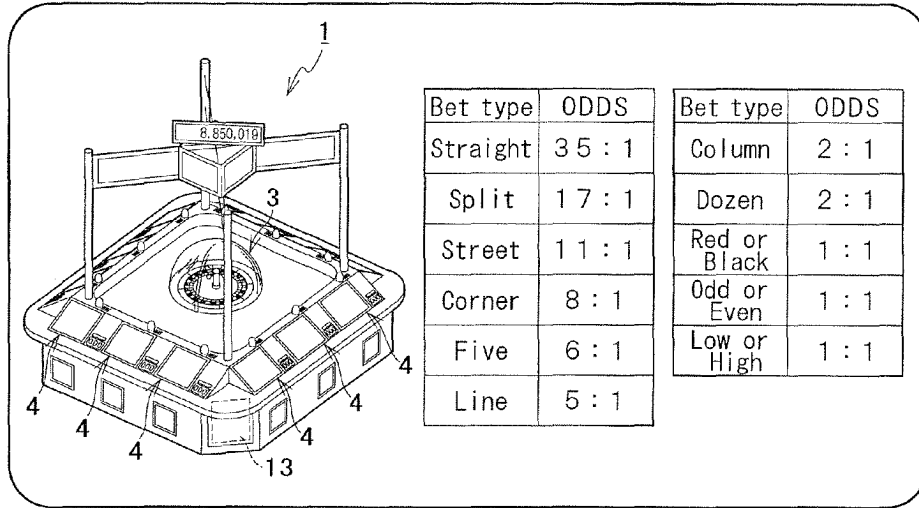


FIG.1

Start of unit game



ODDS of the bet type subjected to ODDS UP is increased

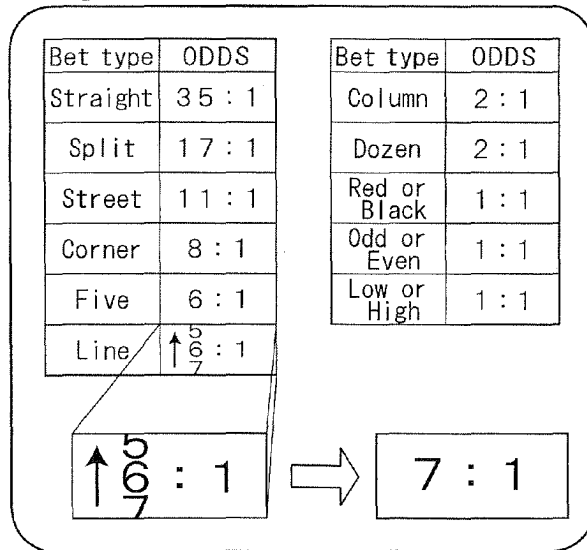


FIG. 2

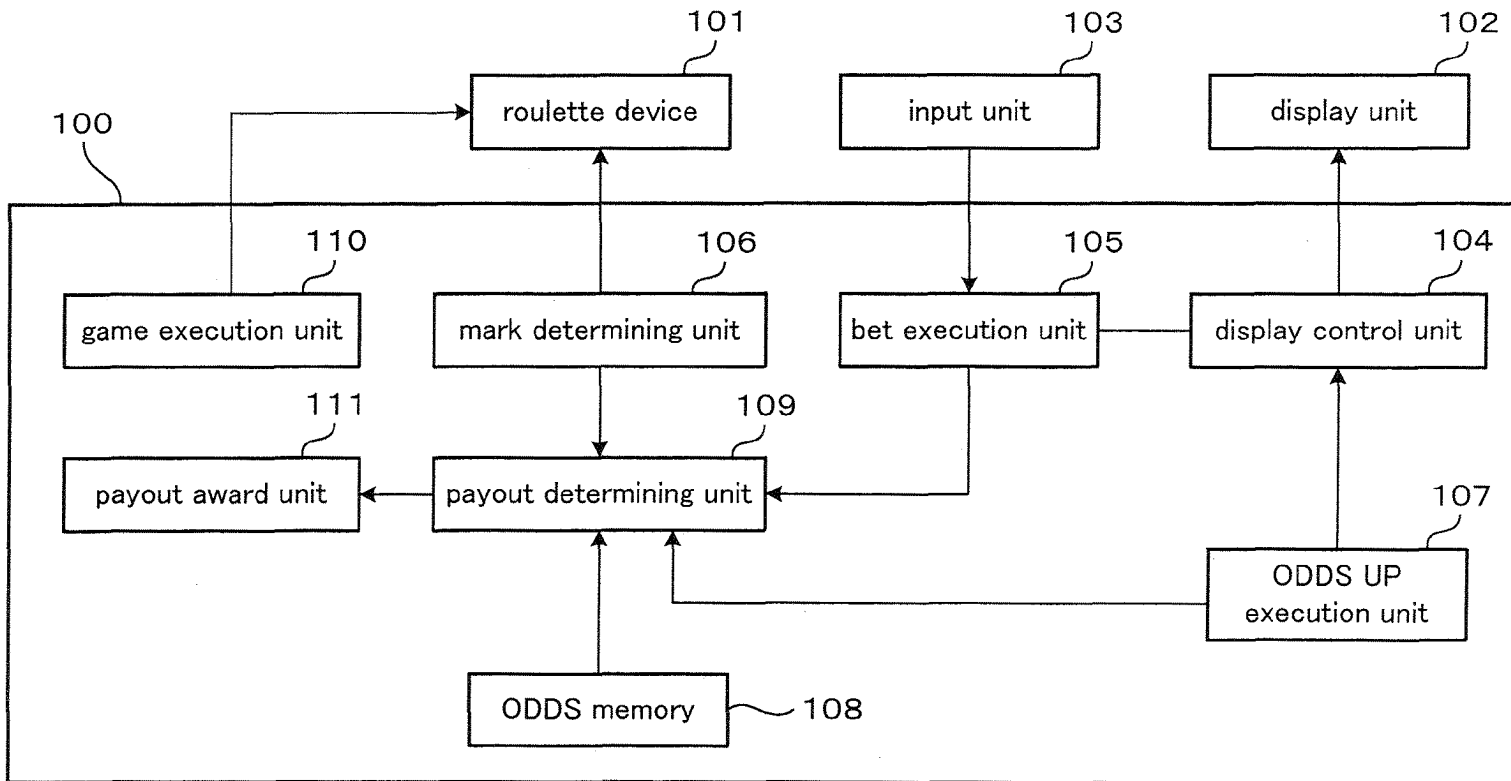


FIG. 3

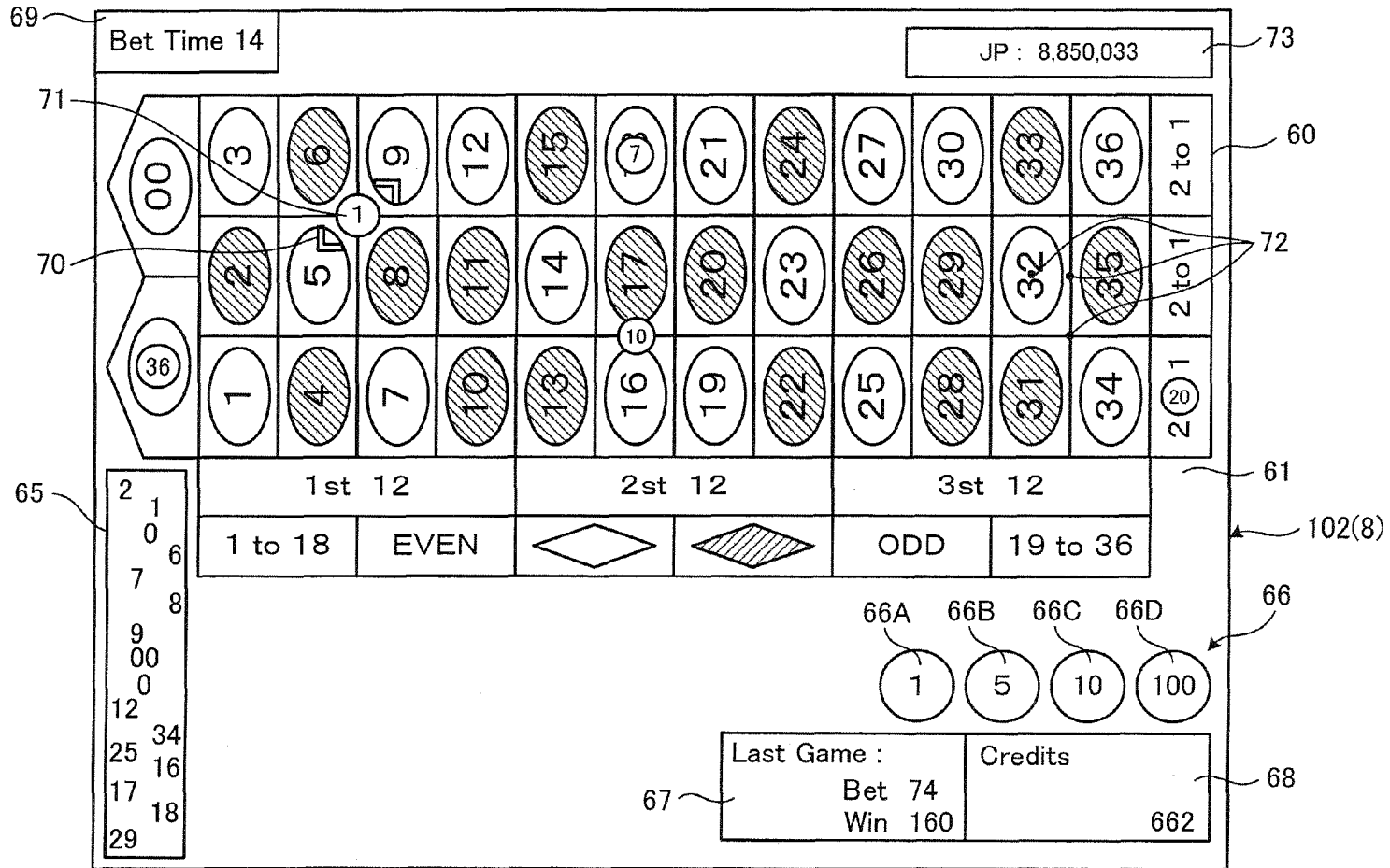


FIG. 4

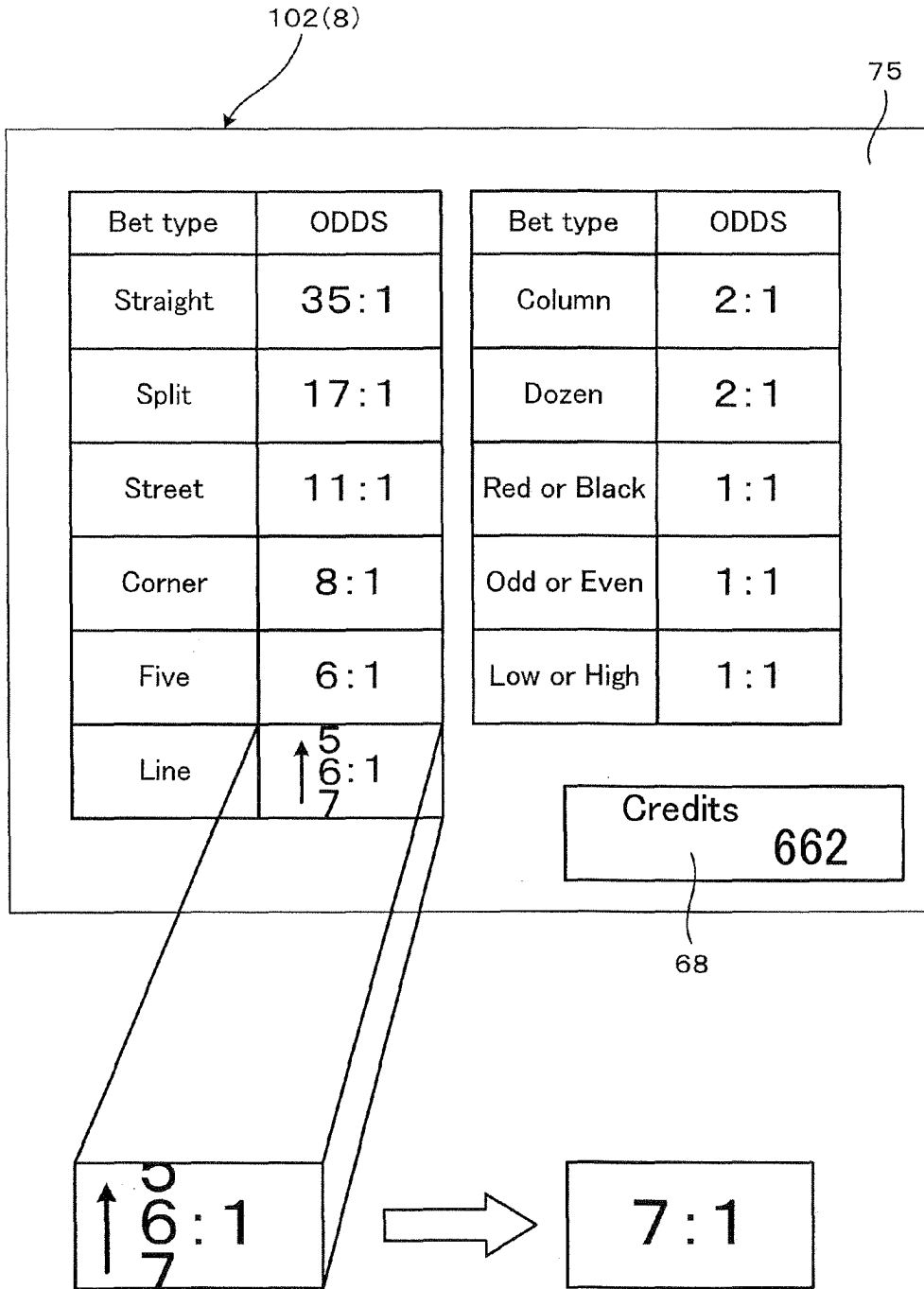


FIG. 5

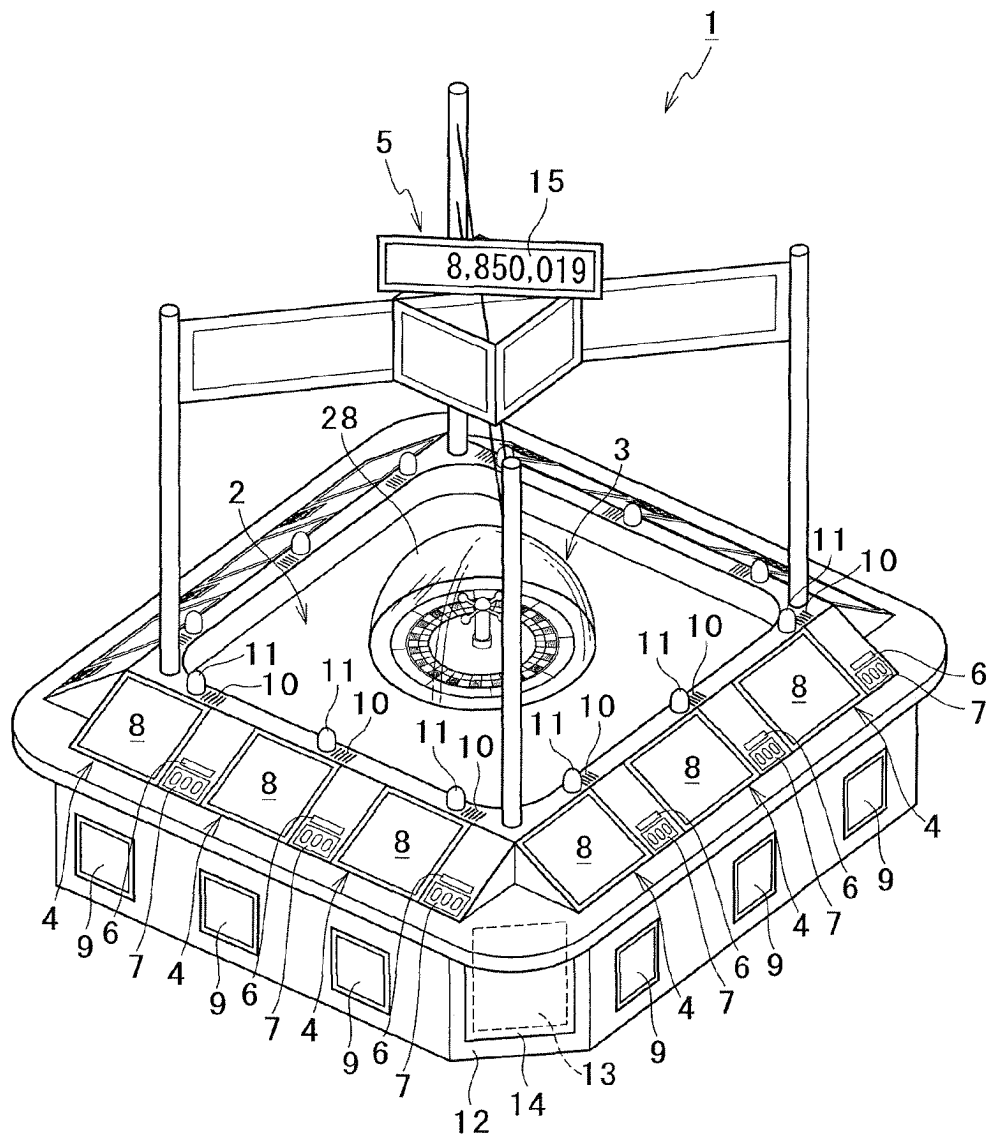


FIG. 6

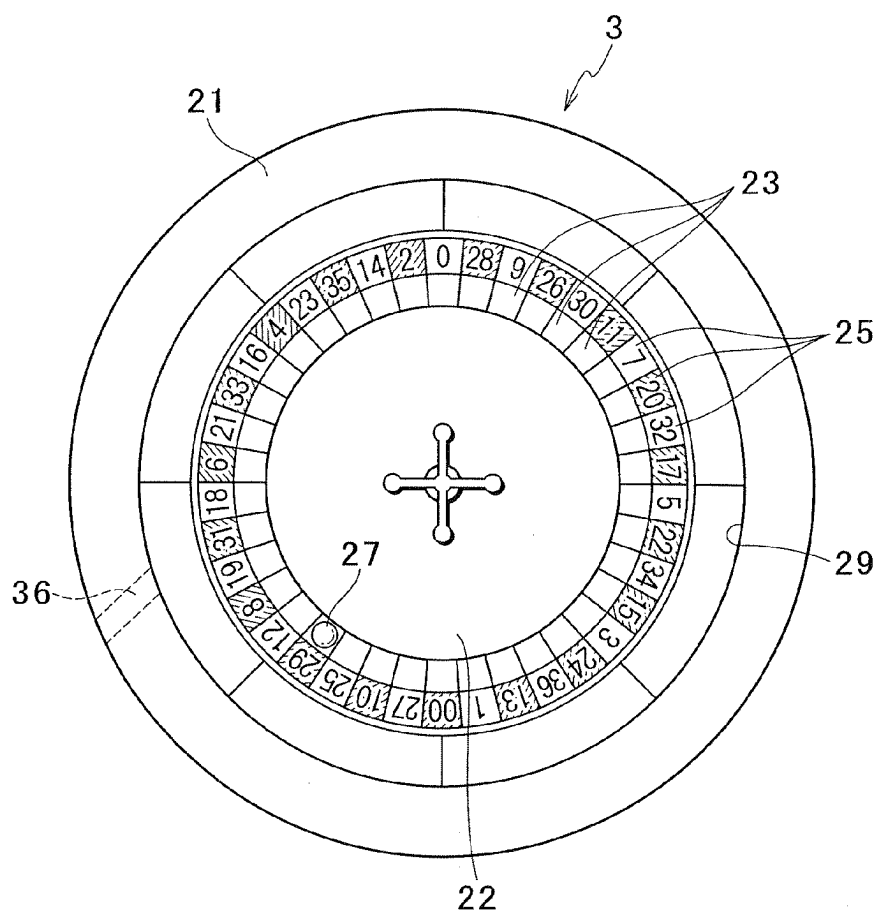


FIG. 7

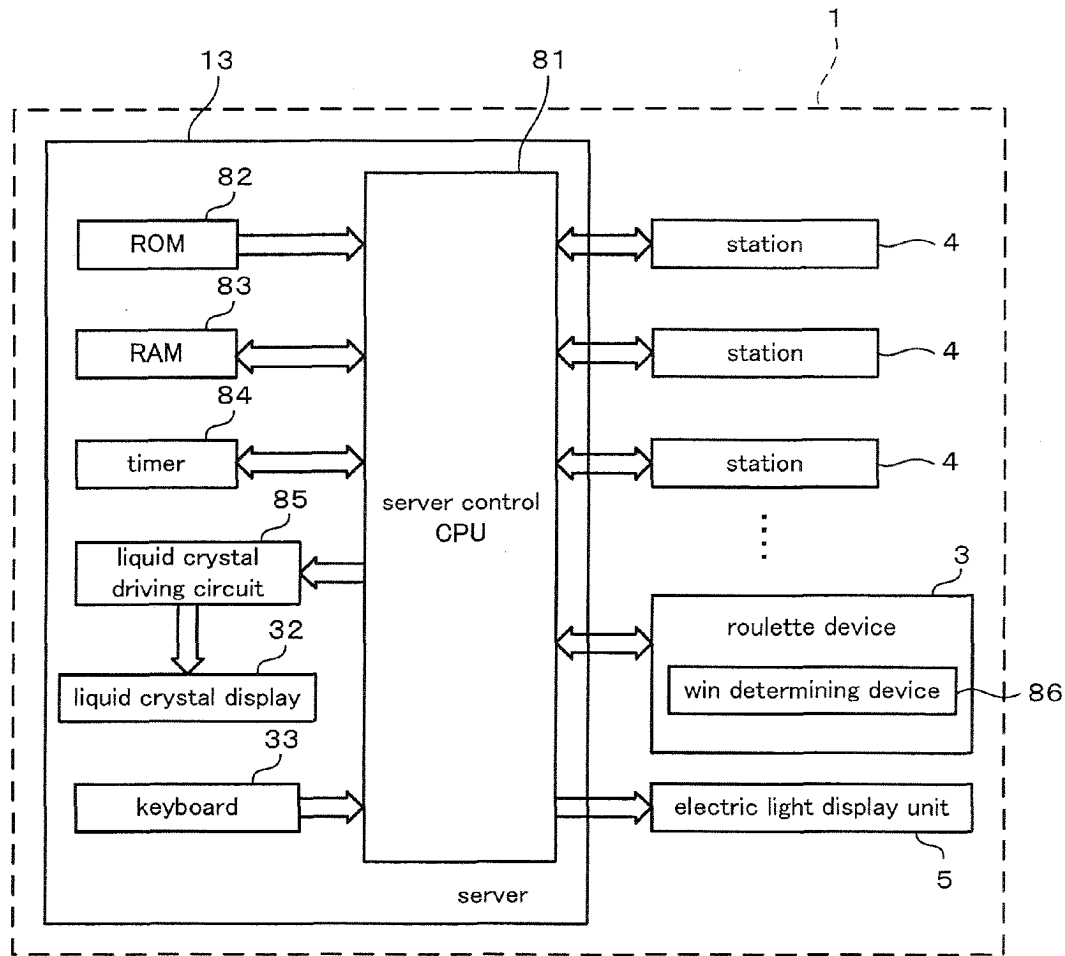


FIG. 8

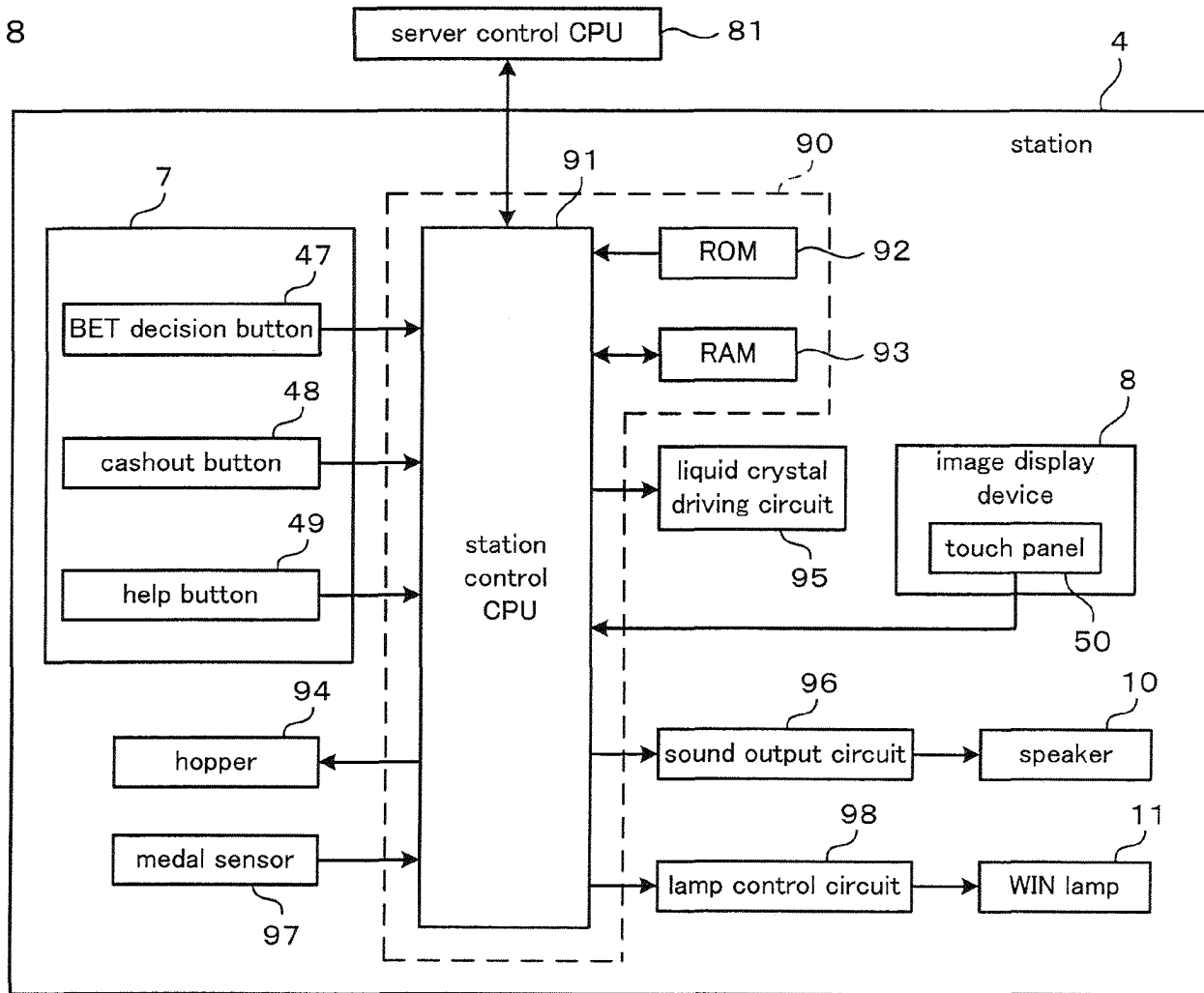


FIG. 9

ODDS management table

Number	Bet type	Base ODDS	Specific ODDS
1	Straight	35:1	39:1
2	Split	17:1	19:1
3	Street	11:1	13:1
4	Corner	8:1	11:1
5	Five	6:1	8:1
6	Line	5:1	7:1
7	Column	2:1	5:1
8	Dozen	2:1	5:1
9	Red or Black	1:1	2:1
10	Odd or Even	1:1	2:1
11	Low or High	1:1	2:1

FIG. 10

ODDS UP subject determining table

Number subjected to ODDS UP	Random number range
None	0~159
1	160~165
2	166~171
3	172~177
4	178~183
5	184~189
6	190~195
7	196~201
8	202~207
9	208~213
10	214~219
11	220~225
3, 4	226~231
5, 6	232~237
7, 8	238~243
9, 10	244~249
9, 10, 11	250~255

FIG. 11

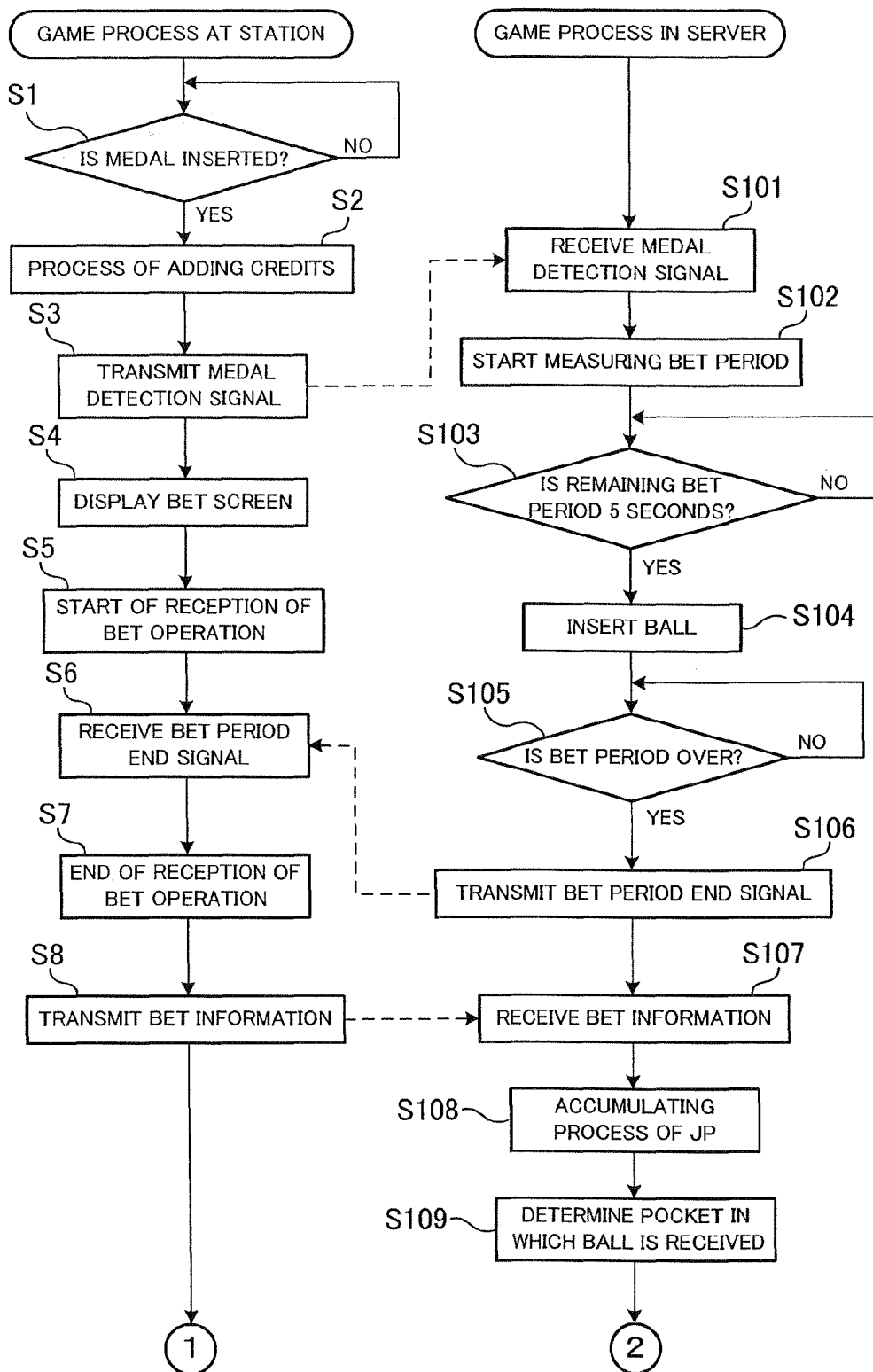
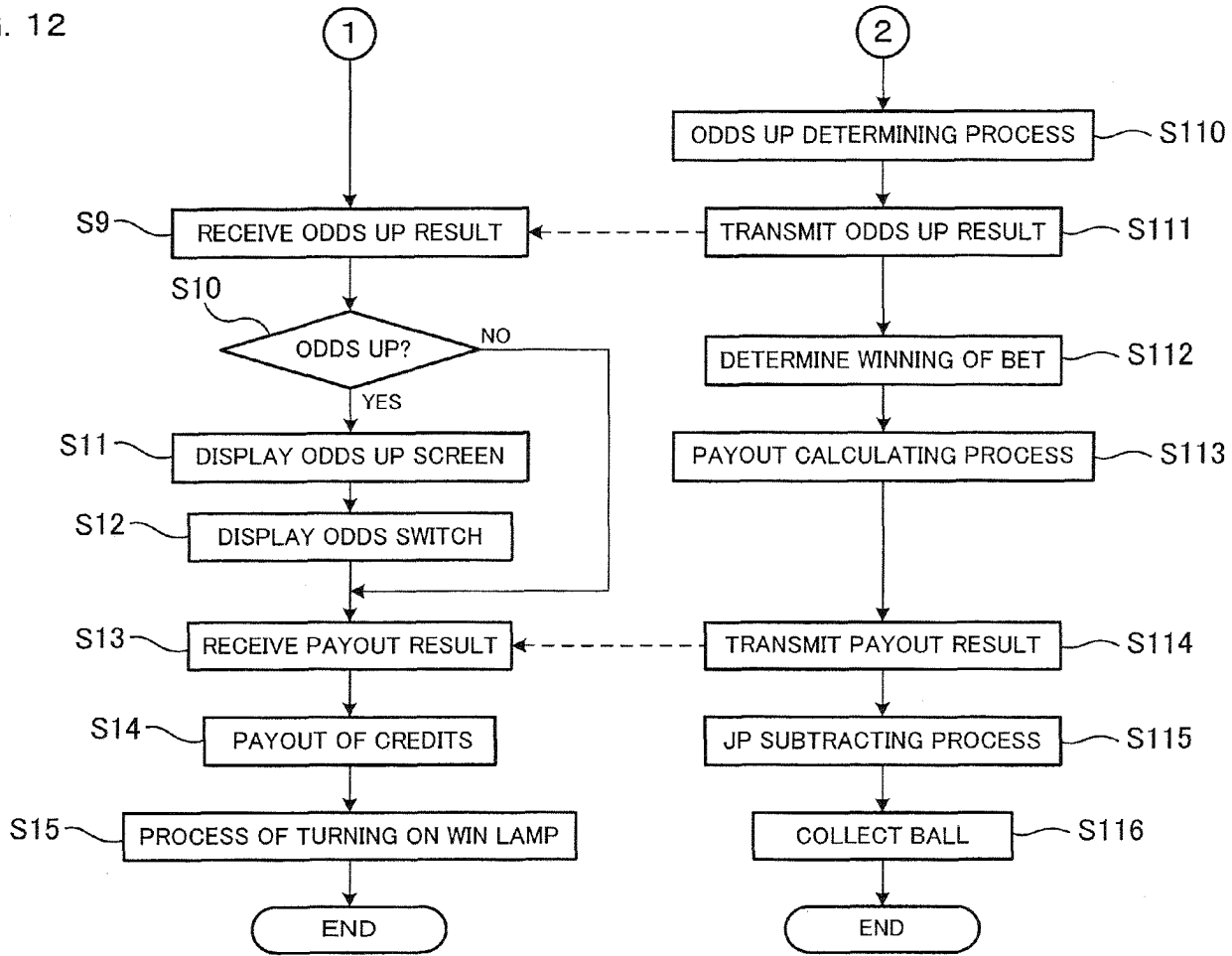


FIG. 12



ROULETTE GAMING MACHINE CHANGING PAYOUT RATIO SET FOR SPECIFIC BET TYPE AND PLAYING METHOD OF ROULETTE GAME

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is based upon and claims the benefit of priority from the prior Japanese patent Application No. 2007-096213, filed on Apr. 2, 2007.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a roulette gaming machine that changes a payout ratio set for a specific bet type, and a playing method of a roulette game.

[0004] 2. Description of Related Art

[0005] In a gaming machine where a player expects a win number to play a game, such as a roulette gaming machine, a bingo gaming machine, or a keno gaming machine, pockets having identification numbers (for example, “00”, “0” and “1” to “36” in a roulette gaming machine) are formed on a wheel, and a rolling object rolling on the wheel, such as a ball, is used to specify one of the pockets on the wheel, thereby determining a win number.

[0006] Here, in the gaming machine, a series of processes of rolling the ball on the wheel to determine a win number are basically common to every game. Accordingly, when a game is repeatedly played, a player may be gradually bored with the game.

[0007] U.S. Pat. No. 6,921,072B2 discloses a roulette gaming machine in which several wheels are provided and a win number is determined on each of the wheels. Like this, a game is played using several wheels, thereby providing a chance of obtaining a large amount of payout. At the same time, a game is played using the several win numbers determined, so that the game can be diversified.

SUMMARY OF THE INVENTION

[0008] Here, although the above-described roulette gaming machine uses the several wheels to increase a chance of obtaining a payout, the payout ratio (so-called, odds) is constant.

[0009] An object of the present invention is to provide a roulette gaming machine having an entertainment characteristic, which is not provided in the above prior art, and a playing method of a roulette game.

[0010] Another object of the present invention is to provide a roulette gaming machine having a new entertainment characteristic, in which a player’s expectation is increased by changing a payout ratio (so-called odds) set for a specific bet type, without deteriorating a game characteristic of a conventional roulette gaming machine, and a playing method of a roulette game.

[0011] A roulette gaming machine according to the present invention includes: a roulette device in which a ball rolls on a wheel having a plurality of marks disposed thereon; a display that displays a plurality of bet areas each of which corresponding to at least one mark and one bet type and on each of which a game value is bet; an input device that receives an operation from an outside; and a controller programmed to perform operations of: (a) betting a game value on a bet area associated with the operation received by the input device

from the outside, in a bet type corresponding to the bet area; (b) rolling the ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball; (c) when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout on the basis of the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area; and (d) randomly switching the payout ratio set for a specific bet type between a base ratio and a specific ratio higher than the base ratio.

[0012] According to the above structure, the payout ratio set for a specific bet type is randomly switched between the base ratio and the specific ratio. Thereby, when a bet is made in a specific bet type and the payout ratio is switched into a specific ratio, a payout that is awarded at a time of winning is larger, as compared to a base. Therefore, a player’s expectation can be increased without deteriorating a game characteristic of a conventional roulette gaming machine.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Other and further objects, features and advantages of the invention will appear more fully from the following description taken in connection with the accompanying drawings in which:

[0014] FIG. 1 illustrates a playing method of a roulette gaming machine.

[0015] FIG. 2 is a block diagram of a roulette gaming machine.

[0016] FIG. 3 illustrates a display screen.

[0017] FIG. 4 illustrates a display screen.

[0018] FIG. 5 is a perspective view showing an appearance of a roulette gaming machine.

[0019] FIG. 6 is a plan view of a roulette device.

[0020] FIG. 7 is a block diagram schematically showing an electrical structure of a roulette gaming machine.

[0021] FIG. 8 is a block diagram schematically showing an electrical structure of a station.

[0022] FIG. 9 shows an ODDS management table.

[0023] FIG. 10 shows an ODDS UP subject determining table.

[0024] FIG. 11 is a flow chart of a game process.

[0025] FIG. 12 is a flow chart of a game process.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0026] An embodiment of a roulette gaming machine and a playing method of a roulette game according to the present invention will be described. A roulette gaming machine means a gaming machine in which a player expects a number etc. to be determined in a roulette device and bets a possessed game value such as a chip on the expected number etc., and when the bet number etc. wins, a predetermined number of game medium such as a medal, or game value such as credit is awarded to the player.

[0027] As shown in FIG. 1, a roulette gaming machine 1 repeatedly performs a unit game in which a ball rolls on a wheel having many marks disposed thereon, and executes a playing method comprising the steps of: betting a game value on a bet area, among many bet areas displayed on a display, associated with an operation received by an input device from an outside, in a bet type corresponding to the bet area; rolling the ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball; when the specific mark and the bet area on which the game value is bet have a

corresponding relation, awarding a payout based on the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area; randomly determining, as a specific bet type, one or more bet types among all bet types; switching a payout ratio set for the specific bet type from a base ratio to a specific ratio higher than the base ratio; and displaying an image showing that the payout ratio is being switched, on the display, before a payout is awarded.

[0028] Here, the description of “randomly determining, as a specific bet type, one or more bet types among all bet types” means executing “an ODDS UP determining process” of randomly determining a bet type (specific bet type) to be subjected to ODDS UP among all bet types, in this embodiment. When the “ODDS UP determining process” is executed, one or more bet types are determined as a specific bet type, or no bet type is determined as a specific bet type. The “ODDS UP determining process” is executed every unit game that is repeatedly carried out. When there is a specific bet type determined by the “ODDS UP determining process,” a payout ratio (so-called odds) set for the specific bet type is switched from a base ratio to a specific ratio higher than the base ratio. Due to this, when a bet is made in a specific bet type determined by the “ODDS UP determining process” and a winning is made in this specific bet type, a payout to be awarded to a player is larger.

[0029] The roulette gaming machine **1** that executes the playing method includes a roulette device **101**, a display unit (display) **102**, an input unit (input device) **103** and a controller **100**, as shown in FIG. 2.

[0030] (Roulette Device **101**)

[0031] The roulette device **101** is a device that randomly selects one of the many marks and determines the selected mark as a specific mark. The roulette device **101** has a physical structure with a wheel having many marks disposed thereon and a ball rolling on the wheel. Meantime, the roulette device **101** may have an electrical structure of displaying a roulette screen on which a ball rolling on a wheel is displayed. The electrical structure may include a liquid crystal display device, a CRT (Cathode-ray tube) device, a plasma display device and the like. The detailed structure of the roulette device **101** will be described later.

[0032] (Display Unit **102**)

[0033] The display unit (display) **102** is electrically structured to display many bet areas. The display unit **102** may have a physical structure with a table having many bet areas depicted thereon, and the like. The electrical structure may include a liquid crystal display device, a CRT (Cathode-ray tube) device, a plasma display device and the like. The detailed structure of the display unit **102** will be described later.

[0034] (Input Unit **103**)

[0035] The input unit (input device) **103** is operated for betting a chip (game value) on any of the many bet areas displayed on the display unit **102**. As described below, the input unit **103** may be constructed from a touch panel provided on a front of the display unit **102**, or constructed from several buttons.

[0036] (Controller **100**)

[0037] The controller **100** is configured to execute a first process of betting a game value (chip) on a bet area, among the many bet areas displayed on the display (display unit **102**), associated with an operation received by an input device (input unit **103**) from an outside, in a bet type corresponding to the bet area; a second process of rolling a ball, thereby

setting, as a specific mark, a mark corresponding to a stop position of the ball; and a third process of, when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout (credit) based on the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area. In other words, the controller **100** has a first processing unit, a second processing unit and a third processing unit.

[0038] In addition, the controller **100** is configured to execute a fourth process of randomly determining, as a specific bet type, one or more bet types among all bet types; a fifth process of switching a payout ratio set for the specific bet type from a base ratio to a specific ratio higher than the base ratio; and a sixth process of displaying an image showing that the payout ratio is being switched, on the display (display unit **102**), before a payout is awarded. In other words, the controller **100** has a fourth processing unit, a fifth processing unit and a sixth processing unit.

[0039] The controller **100** includes a bet execution unit **105** that executes a bet of a chip, based on an operation signal from the input unit **103**, and a display control unit **104** that controls the display unit **102** to display many bet areas. The display control unit **104** displays bet information on a corresponding bet area when the bet execution unit **105** executes a bet. A detailed display state will be described later. Meantime, the many bet areas are in association with respective bet types. The details of the bet types will be described later. In other words, the controller **100** executes the first process of betting a game value (chip) on a bet area, among the many bet areas displayed on a display (display unit **102**), associated with an operation received by an input device (input unit **103**) from an outside, in a bet type corresponding to the bet area.

[0040] In addition, the controller **100** includes a game execution unit **110** that causes the roulette device **101** to execute an operation of randomly selecting one of the many marks and determining the selected mark as a specific mark. To be more specific, the game execution unit **110** rolls the ball on the wheel having the many marks disposed thereon, thereby causing the roulette device **101** to execute an operation of randomly selecting one of the many marks and determining the selected mark as a specific mark. In addition, the controller **100** includes a mark determining unit **106** that determines a mark corresponding to a stop position of the ball rolled in the roulette device **101**. The controller **100** sets, as a specific mark, the mark determined by the mark determining unit **106**. That is, the controller **100** executes the second process of rolling a ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball.

[0041] In addition, the controller **100** includes: an ODDS memory **108** that stores a base ratio that is a payout ratio (odds) set for each bet type and referred to as a payout ratio when a corresponding bet type is not determined as a specific bet type in an “ODDS UP determining process”, and stores a specific ratio that is a payout ratio (odds) set for each bet type and referred to as a payout ratio when a corresponding bet type is determined as a specific bet type in an “ODDS UP determining process”; a payout determining unit **109** that determines a payout for a player; and a payout award unit **111** that awards a payout to a player. The payout determining unit **109** refers to a bet that is executed by the bet execution unit **105** and a specific mark that is determined by the mark determining unit **109**, and determines whether the specific mark and the bet area on which a chip is bet have a corresponding relation. The payout determining unit **109** determines a win-

ning when the specific mark and the bet area on which a chip is bet have a corresponding relation, and calculates a payout (credit), based on a payout ratio that is set for the bet type corresponding to the bet area on which a chip is bet, among the payout ratios (odds) stored in the ODDS memory 108, and the chip bet on the bet area. The calculated payout is awarded to a player by the payout award unit 111. That is, the controller 100 executes the third process of, when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout (credit) based on the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area.

[0042] Furthermore, the controller 100 includes an ODDS UP execution unit 107. The ODDS UP execution unit 107 executes a “ODDS UP determining process” every unit game and randomly determines a specific bet type. As described above, there is a case where no bet type is determined as a specific bet type in the “ODDS UP determining process”. That is, the controller 100 executes the fourth process of randomly determining, as a specific bet type, one or more bet types among all bet types.

[0043] When there is a specific bet type determined in an “ODDS UP determining process,” the payout determining unit 109 switches a payout ratio set for the specific bet type, among the payout ratios (odds) stored in the ODDS memory 108, to a specific ratio from a base ratio, then calculating a payout (credit). That is, the controller 100 executes the fifth process of switching a payout ratio set for the specific bet type from a base ratio to a specific ratio higher than the base ratio.

[0044] In addition, when there is a specific bet type determined in an “ODDS UP determining process,” the display control unit 104 controls the display unit 102 to display an ODDS screen, before the payout award unit 111 awards a payout. The ODDS screen displays the payout ratios (odds) set for respective bet types. The display control unit 104 displays, in the ODDS screen, an image showing that a payout ratio set for the specific bet type is being switched to a specific ratio from a base ratio. That is, the controller 100 executes the sixth process of displaying an image showing that the payout ratio is being switched, on the display (display unit 102), before a payout is awarded.

[0045] Each block of the controller 100 may be embodied in hardware or software, as required.

[0046] (Operation of the Controller 100)

[0047] An operation of the controller 100 with the above-mentioned structure will be described. First, bet information is inputted to the bet execution unit 105 from the input unit 103 and the inputted bet information is displayed on the display unit 102 by the display control unit 104. Thereby, the controller 100 executes the first process of betting a game value (chip) on a bet area, among many bet areas displayed on a display (display unit 102), associated with an operation received by an input machine (input unit 103) from an outside, in a bet type corresponding to the bet area. As the roulette device 101 is operated by the game execution unit 110, one of the many marks is randomly selected and is determined as a specific mark. The specific mark is determined by the mark determining unit 106. Thereby, the controller 100 executes the second process of rolling a ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball.

[0048] Before or after the above process, an “ODDS UP determining process” is executed by the ODDS UP execution unit 107, so that a specific bet type is randomly determined.

Thereby, the controller 100 executes the fourth process of randomly determining, as a specific bet type, one or more bet types among all bet types. When there is a specific bet type determined in an “ODDS UP determining process,” a payout ratio set for the specific bet type, among the payout ratios (odds) stored in the ODDS memory 108, is switched to a specific ratio from a base ratio by the payout determining unit 109. Thereby, the controller 100 executes the fifth process of switching a payout ratio set for the specific bet type from a base ratio to a specific ratio higher than the base ratio. In addition, when there is a specific bet type determined in an “ODDS UP determining process,” an ODDS screen is displayed on the display unit 102 by the display control unit 104 and an image showing that a payout ratio set for a specific bet type is being switched to a specific ratio from a base ratio is displayed. Thereby, the controller 100 executes the sixth process of displaying an image showing that the payout ratio is being switched, on the display (display unit 102), before a payout is awarded.

[0049] The payout determining unit 109 determines whether the specific mark and the bet area on which a chip is bet have a corresponding relation. When the specific mark and the bet area on which a chip is bet have a corresponding relation, a winning is made and a payout (credit) is calculated, based on the chip bet on the bet area and the payout ratio set for the bet type corresponding to the bet area. Then the calculated payout (credit) is awarded to a player by the payout award unit 111. Thereby, the controller 100 executes the third process of, when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout (credit) based on the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area.

[0050] As clearly seen from the above operation and as shown in FIG. 1, the roulette gaming machine 1 repeatedly performs a unit game in which a ball rolls on a wheel having many marks disposed thereon, and realizes a playing method including: betting a game value on a bet area, among many bet areas displayed on a display, associated with an operation received by an input device from an outside, in a bet type corresponding to the bet area; rolling the ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball; when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout based on the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area; randomly determining, as a specific bet type, one or more bet types among all bet types; switching a payout ratio set for the specific bet type from a base ratio to a specific ratio higher than the base ratio; and displaying an image showing that the payout ratio is being switched, on the display, before a payout is awarded.

[0051] According to the above playing method, the payout ratio set for a specific bet type randomly determined among all bet types is switched from a base ratio to a specific ratio. Thereby, when a bet is made in a specific bet type and a winning is made in the specific bet type, a payout to be awarded is larger, as compared to a base. Therefore, a player's expectation may be increased without deteriorating a game characteristic of a conventional roulette gaming machine. In addition, since an image showing that the payout ratio is being switched is displayed on the display, a player can watch the display to know whether a payout ratio set for a bet type

corresponding to a bet area on which the player makes a bet is switched. As a result, a player's expectation may be further increased.

[0052] (Display State)

[0053] An example of a display state of the display unit (display) 102 in the operating processes of the playing method of the roulette game and the roulette gaming machine 1 will be specifically described. The display state will be described on the basis of an electrical structure that the display unit 102 displays a BET screen 61 including many bet areas 72, and the like, as shown in FIG. 3.

[0054] While a roulette game is executed in the roulette gaming machine 1, a BET screen 61 having a table-type betting board 60 is displayed on the display unit 102, as shown in FIG. 3. The table-type betting board 60 is provided with many bet areas 72. In the mean time, at a front of the display unit 102, provided is a light transmissive touch panel 50 that is operable by pressing from an outside, as an input unit (input device) 103. Therefore, the description that various parts on the BET screen 61, such as bet areas 72, are pressed means that the various parts corresponding to the bet areas 72 of the touch panel 50 are pressed by a player.

[0055] As shown in FIG. 3, in the table-type betting board 60 displayed in the BET screen 61, the thirty-eight kinds of numbers of "0," "00," and "1" to "36" are arranged in a grid form. In addition, special bet areas for indicating "odd number," "even number," "types of colors of numbered plates (red or black)" and "a predetermined range of numbers (for example, "1" to "12") to bet a chip are also arranged in a grid form.

[0056] At a lower part from the table-type betting board 60, a result history display section 65, unit BET buttons 66, a cashout result display section 67 and a credit-number display section 68 are sequentially displayed from left of the screen.

[0057] The result history display section 65 displays, in a list form, results of win numbers up to the previous games (here, one game is a series of operations that a player makes a bet, a ball rolls and stops and a credit (payout) is paid out based on a win number (determined number, specific mark)). At this time, when one game is over, one combination of win numbers is additionally displayed from top and a history of the win numbers of maximum 10 games can be checked.

[0058] The unit BET buttons 66 are provided to bet a chip on a bet areas 72 indicated by the player (on a grid of numbers and marks or on a line forming a grid). The unit BET buttons 66 are structured from four kinds of buttons, a 1 BET button 66A, a 5 BET button 66B, a 10 BET button 66C and a 100 BET button 66D.

[0059] First, a player pushes a bet area 72 with a finger etc., so that a cursor 70 (described later) is indicated. In this state, whenever the 1 BET button 66A is pushed, a chip is bet in a unit of one piece (whenever the 1 BET button 66A is pushed with a finger etc., the bet-number is increased in an order of "1"->"2"->"3" . . .). When the 5 BET button 66B is pushed, the chips are bet in a unit of five pieces (whenever the 5 BET button 66B is pushed with a finger etc., the bet-number is increased in an order of "5"->"10"->"15" . . .). When the 10 BET button 66C is pushed, the chips are bet in a unit of ten pieces (whenever the 10 BET button 66C is pushed with a finger etc., the bet-number is increased in an order of "10"->"20"->"30" . . .). Furthermore, when the 100 BET button 66D is pushed, the chips are bet in a unit of 100 pieces (whenever the 100 BET button 66D is pushed with a finger etc., the bet-number is increased in an order of "100"->"200"-

>"300" . . .). Accordingly, even when many chips are bet, an operation thereof can be simplified.

[0060] The cashout result display section 67 displays the number of chips bet by a player in a previous game and the cashout credit-number. Here, the subtraction of the bet-number from the cashout credit-number results in a credit-number that is newly obtained by a player in a previous game.

[0061] The credit-number display section 68 displays the number of credits that are currently possessed by a player. When a chip is bet, the credit-number is decreased in accordance with the bet-number (one credit for one chip). In addition, when a winning is made for the number on which the bet is made and the cashout of credits is performed, the credit-number is increased by the number corresponding to the cashout-number. In the mean time, when the credit-number possessed by a player becomes 0, the game is over.

[0062] A BET time display section 69 is disposed above the table-type betting board 60. The BET time display section 69 displays a remaining time period for which a player can bet. When reception of a bet operation starts, "20" is displayed and the number is decreased by 1 every one second. When the number becomes "0," the reception of a bet operation ends. In addition, when the bet time of the player is 5 seconds, a ball insertion device that will be described later is driven to insert the ball into the wheel.

[0063] Furthermore, a JP display section 73, which displays the credit-number accumulated up to now in a jackpot (JP) manner, is disposed at the right of the BET time display section 69. Here, the credit-number of a JP manner is a value to which 0.5% of credits bet in twelve stations 4 is accumulatively added and the JP display section 73 displays a common value in all the stations 4. When a winning is made in a specific bet type determined in the "ODDS UP determining process," a half of the payout to be awarded to a player is paid out from the credit-number of a JP manner. In the mean time, the credit-number that is accumulated up to now by the JP manner is also displayed on a JP amount display unit 15 (refer to FIG. 5) of an electric light display unit 5 that will be described later, in addition to the JP display section 73.

[0064] In addition, a cursor 70 showing the bet area 72 currently selected by a player is displayed on the table-type betting board 60. Additionally, a chip mark 71 showing the number of chips that are bet up to now and the bet area 72 is displayed. The number shown on the chip mark 71 indicates the number of chips bet. For example, as shown in FIG. 3, the chip mark 71 of "7", which is put on the grid of "18", indicates that seven chips are bet on the number "18." Like this, the bet type in which a bet is made on one number only is referred to as a "Straight bet."

[0065] The chip mark 71 of "1", which is put on an intersection of the grids of "5", "6", "8" and "9", indicates that one chip is bet while covering the four numbers of "5", "6", "8" and "9." Like this, the bet type in which a bet is made while covering the four numbers is referred to as a "Corner bet."

[0066] As the other bet types, there is a bet type of "Split bet" in which a bet is made while covering two numbers on a line between the two numbers. In addition, there is a bet type of "Street bet" in which a bet is made while covering three numbers (for example, "13", "14" and "15") at ends of one row (one column in the vertical direction in FIG. 3). In addition, there is a bet type of "Five bet" in which a bet is made while covering five numbers of "0", "00", "1", "2" and "3" on a line between "0" and "3". Furthermore, there is a bet type of "Line bet" in which a bet is made while covering six numbers (for

example, “13”, “14”, “15”, “16”, “17” and “18”) between two rows (two columns in the vertical direction in FIG. 3). In addition, there is a bet type of “Column bet” in which a bet is made while covering twelve numbers on the grid of “2 to 1”. Additionally, there is a bet type of “Dozen bet” in which a bet is made while covering twelve numbers on the grids of “1st 12”, “2nd 12” and “3rd 12”, respectively.

[0067] Furthermore, there are other bet types, using the six grids provided at the lowest part of the table-type betting board 60, which are: “Red or Black bet” in which a bet is made on the red or black numbers of the numbered plates; “Odd or Even bet” in which a bet is made on the odd or even numbers; and “Low or High bet” in which a bet is made on the numbers of 18 or less or 19 or more.

[0068] In the mean time, the payout ratios (odds) set for respective bet types are different, respectively. Here, the payout ratio (odds) is a payout-number of credits for a winning per one chip. The payout ratio will be specifically described later.

[0069] When a bet is made on the BET screen 61 structured as described above, a player presses a bet area 72 on which a bet is made (on a grid of number and mark or on a line forming a grid) with a finger etc. As a result, the pressed bet area 72 becomes an indicated bet area 72 and the cursor 70 is moved to the indicated bet area 72.

[0070] Then, the respective unit buttons of the unit BET buttons 66 (1 BET button 66A, 5 BET button 66B, 10 BET button 66C, 100 BET button 66D) are pushed, and then the resulted unit numbers of chips are bet on the indicated bet area 72. For example, when the 10 BET button 66C is pushed four times, the 5 BET button 66B is pushed once and the 1 BET button 66A is pushed three times, 48 chips are bet in total.

[0071] In addition, when there is a specific bet type determined in an “ODDS UP determining process,” an ODDS screen 75 is displayed on the display unit 102, as shown in FIG. 4. In the ODDS screen 75, a bet type and an ODDS (payout ratio) corresponding to the bet type are displayed. In addition, an image showing that an ODDS corresponding to a specific bet type is being switched from a base ODDS (base ratio) to a specific ODDS (specific rat) is displayed. In FIG. 4, “Line” is determined as a specific bet type and an image shows that an ODDS corresponding to “Line” is being switched from a base ODDS of “5:1” to a specific ODDS of “7:1”.

[0072] (Mechanical Structure of the Roulette Gaming Machine 1)

[0073] Next, the mechanical structure of the roulette gaming machine 1 will be described.

[0074] As shown in FIG. 5, the roulette gaming machine 1 is configured to have a cabinet 2 that is a main body, a roulette device 3 (roulette device 101) provided at substantially center of an upper surface of the cabinet 2, several stations 4 (twelve stations in this embodiment) mounted so as to surround the roulette device 3, and an electric light display unit 5 provided above the cabinet 2.

[0075] Here, the station 4 is a bet unit in which a player’s bet operation that is performed while expecting a win number of the roulette device 3 is inputted. The station 4 includes, at least, a medal insertion slot 6 into which a game medium such as money and a medal is inserted, a controller 7 having control buttons and the like with which a player inputs a predetermined instruction, and an image display device 8 (display unit (display) 102) that displays an image relating to a game. The station 4 is a game area that receives a player’s bet operation.

[0076] The image display device 8 is a liquid crystal display of a so-called touch panel type having the touch panel 50 attached to a front thereof, as an input unit (input device) 103. When an icon displayed on the liquid crystal screen is pressed with a finger etc. of a player, the icon is selected. A player who recognizes an image displayed on the image display device 8 operates the touch panel 50 or controller 7, thereby proceeding with a game.

[0077] In addition, medal payout slots 9 are respectively provided to sides of the cabinet 2 having the stations 4 mounted thereto. Furthermore, speakers 10 that transmit music, effect sound and the like are provided on upper right sides of the image display devices 8 of the stations 4, respectively.

[0078] Furthermore, WIN lamps 11 are respectively provided above the image display devices 8 of the respective stations 4. When a winning is made for the number (“00”, “0”, “1” to “36” in this embodiment) bet in the stations 4, the WIN lamp 11 of the station 4 in which the winning is made is turned on. In the mean time, the WIN lamps 11 are disposed at positions that can be seen from all the stations 4 (twelve stations in this embodiment). In other words, another player who plays a game in the same roulette gaming machine 1 can see a lighting state of the WIN lamps 11.

[0079] In addition, a medal sensor (not shown) is provided in the medal insertion slot 6. The medal sensor validates a medal inserted into the medal insertion slot 6 and counts the inserted medal. In addition, a hopper (not shown) is provided in the medal payout slot 9, and the hopper pays out the predetermined number of medals from the medal payout slot 9.

[0080] In addition, a server 13 is disposed in a corner 12 that is located at a corner of the cabinet 2. The server 13 is connected to each of the stations 4 and transmits a command signal to each of the stations 4, thereby initiating controlling each of the stations 4 and proceeding with a game. Due to this, the server 13 is typically stored in the corner 12 so that a player cannot operate the server 13. However, if a corner door 14 provided to the corner 12 is opened by means of a key switch, the server 13 can be operated.

[0081] The server 13 is connected to a liquid crystal display and a keyboard, which are not shown. The liquid crystal display displays a menu screen or maintenance screen. In addition, the keyboard is an operating unit having several keys disposed thereon. In a state that a menu screen or maintenance screen is displayed on the liquid crystal display, an operator operates the keyboard, thereby performing a maintenance operation as well as various settings in the roulette gaming machine 1.

[0082] The electric light display unit 5 has a JP amount display unit 15 that displays a credit-number of a JP manner. In the mean time, the JP amount display unit 15 is mounted on a top of the electric light display unit 5, so that all players who play a game in the respective stations 4 can see the contents of display.

[0083] As shown in FIG. 6, the roulette device 3 is configured to include a frame 21 that is fixed to the cabinet 2 and a wheel 22 that is rotatably received and supported in the frame 21. Many recessed numbered pockets 23 (thirty-eight pockets in this embodiment) are formed on the upper surface of the wheel 22. Further, on the upper surface of the wheel 22, numbered plates 25 are formed in outward directions of the respective numbered pockets 23, the numbered plates respectively having numbers of “00”, “0” and “1” to “36” (as figure

letters) indicated as a mark, so as to correspond to the respective numbered pockets 23. In other words, thirty-eight numbered pockets 23, each of which is given with one number out of "00", "0" and "1" to "36" are formed on the wheel 22.

[0084] In addition, the frame 21 has a ball insertion slot 36 formed therein. The ball insertion slot 36 is coupled with a ball insertion device (not shown). As the ball insertion device is driven, a ball is inserted on the wheel 22 from the ball insertion slot 36. In addition, an entire upper part of the roulette device 3 is covered with a hemisphere cover member 28 (refer to FIG. 5) made of transparent acrylic.

[0085] In addition, a win determining device 86 (refer to FIG. 7) is provided below the wheel 22. The win determining device 86 is a device for determining the numbered pocket 23 into which the ball 27 is received. Further, a ball collection device that is not shown is provided below the wheel 22. The ball collection device is a device for collecting the ball 27 on the wheel 22 after a game is over. In the mean time, since the ball insertion device, the win determining device and the ball collection device have been already known, the detailed descriptions thereof will be omitted.

[0086] Here, the frame 21 is gently inclined inward and a guide wall 29 is formed at a middle part thereof. The guide wall 29 guides an inserted ball 27 against centrifugal force, thereby allowing the ball 28 to roll. When the centrifugal force is decreased as the rotation speed of the ball 27 is lowered, the ball 27 is rolled down along the inclined surface of the frame 21, is moved inwardly and reaches the wheel 22 being rotated. The ball 27, which is rolled onto the wheel 22, passes over the numbered plates 25 at the periphery of the wheel 22 being rotated and then is received in any one of the numbered pockets 23. As a result, the number indicated on the numbered plate 25 corresponding to the numbered pocket 23 having the ball 27 received therein is determined by the win determining device 86, so that a win number (specific mark) is determined.

[0087] As shown in FIG. 5, the controller 7 is disposed on a side of the image display device 8 and has buttons each of which is operated by a player. To be more specific, the controller 7 has a BET decision button 47, a cashout button 48 and a help button 49 from left, seen from a position opposite to the station 4.

[0088] The BET decision button 47 is a button that is pushed when deciding a bet after a bet operation is carried out by means of the image display device 8.

[0089] The cashout button 48 is a button that is pushed typically when a game is over. When the cashout button 48 is pushed, the medals (typically, one medal for one credit), which correspond to the credits obtained through a game and the like and currently possessed by a player, are cashed out from the medal payout slot 9.

[0090] The help button 49 is a button that is pushed when an operation method of a game is unclear. Immediately after the help button 49 is pushed, a help screen showing a variety of operation information is displayed on the image display device 8.

[0091] (Electrical Structure of the Roulette Gaming Machine 1)

[0092] Next, an electrical structure of the roulette gaming machine 1 will be described.

[0093] (Electrical Structure of the Server 13)

[0094] As shown in FIG. 7, the roulette gaming machine 1 includes a server 13 and several stations 4 (twelve stations in this embodiment) connected to the server 13. The server 13 is

connected to the roulette device 3 and the electric light display unit 5. In the mean time, a control system of the station 4 will be specifically described later.

[0095] The server 13 is configured to include: a server control CPU 81 ROM 82, and a RAM 83 that serve as a calculation device and a control device that control the entire server 13; a timer 84 connected to the server control CPU 81; a liquid crystal display 32 connected to the CPU through a liquid crystal driving circuit 85; and a keyboard 33.

[0096] The server control CPU 81 executes a variety of processes, based on input signals supplied from each of the stations 4 and data or program stored in the ROM 82 and the RAM 83. Based on the results of the executed processes, the server control CPU 81 transmits a command signal to the stations 4, thereby initiatively controlling each of the stations 4 and proceeding with a game. Further, the server control CPU 81 drives a drive motor provided to the roulette device 3, thereby shooting a ball 27 or rotating the wheel 22. Furthermore, the server control CPU 81 controls the win determining device 86 that specifies a drop position of a ball, thereby determining a win number based on the drop position of the ball. Then, based on the one win number obtained in the roulette device 3 and the bet information transmitted from each of the stations 4, a winning of the chips bet is determined and the credit-number to be paid out in each of the stations 4 is calculated.

[0097] The ROM 82 is structured from a semiconductor memory, or the like. The ROM 82 stores a program for implementing basic functions of the roulette gaming machine 1, a program for executing an "ODDS UP determining process", a program for initiatively controlling each of the stations 4, and the like. In addition, the ROM 82 stores a payout ratio set for each bet type (so-called odds, payout-number of credits for a winning per one chip), in a form of an ODDS management table of FIG. 9, and stores an ODDS UP subject determining table that is used in the "ODDS UP determining process."

[0098] On the other hand, the RAM 83 temporarily stores the bet information of chips supplied from each of the stations 4, a win number of the roulette device 3 determined by a sensor, a credit-number of a JP manner accumulated up to now, data of result of a process executed by the server control CPU 81, and the like.

[0099] Further, to the server control CPU 81, the timer 84 that measures time is connected. The time information of the timer 84 is transmitted to the server control CPU 81. The server control CPU 81 rotates the wheel 22 or inserts the ball 27, based on the time information of the timer 84.

[0100] In addition, the server control CPU 81 is connected to the electric light display unit 5 (refer to FIG. 5). The server control CPU 81 controls light emission of a light emitter such as LED to perform an effect by an electric spectacular and to display predetermined letters on the electric light display unit 5. Furthermore, the server control CPU 81 displays the credit-number of a JP amount, which is accumulated up to now, on the JP amount display unit 15 of the electric light display unit 5.

[0101] (Electrical Structure of the Station 4)

[0102] Next, a structure of a control system of the stations 4 connected to the server 13 according to this embodiment will be described with reference to FIG. 8. FIG. 8 is a block diagram schematically showing a control system of the station according to the embodiment. In the mean time, the

twelve stations 4 have a basically same structure, so that one of the stations 4 will be described as an example.

[0103] As shown in FIG. 8, the station 4 is structured from a station control unit 90 and several peripheral devices. The station control unit 90 includes a station control CPU 91, a ROM 92 and a RAM 93. The ROM 92 is structured from a semiconductor memory, for example. The ROM 92 stores a program for implementing basic functions of the station 4, various programs necessary for controlling the station 4, a data table and the like. In addition, the RAM 93 is a memory that temporarily stores various data calculated in the station control CPU 91, the number of credits that are currently possessed by a player (i.e., stored in the station 4), a situation of chips bet by a player, and the like.

[0104] In addition, the station control CPU 91 is connected to a BET decision button 47, a cashout button 48 and a help button 49, which are provided in the controller 7 (refer to FIG. 5). Based on operation signals outputted by pushing the respective buttons, the station control CPU 91 performs a control so as to execute the corresponding operations. To be more specific, based on an input signal that is supplied from the controller 7 in response to an operation by a player, as well as the data or program stored in the ROM 92 and the RAM 93, the station control CPU executes a variety of processes and transmits the results thereof to the server control CPU 81.

[0105] On the other hand, the station control CPU 91 receives a command signal from the server control CPU 81, controls the peripheral devices constituting the station 4 based on the command signal, and proceeds with a unit game in the station 4. In addition, the station control CPU 91 executes a variety of processes, based on an input signal that is inputted from the controller 7 in response to an operation by a player and the data or program stored in the ROM 92 and the RAM 93, depending on contents of the process, controls the peripheral devices constituting the station 4 based on the process results, and proceeds with a unit game in the station 4.

[0106] In addition, the station control CPU 91 is connected to a hopper 94. The hopper 94 pays out a predetermined number of medals from the medal payout slot 9 (refer to FIG. 5) in accordance with a command signal from the station control CPU 91.

[0107] Furthermore, the station control CPU 91 is connected to an image display device 8 through a liquid crystal driving circuit 95. The liquid crystal driving circuit 95 is structured from a program ROM, an image ROM, an image control CPU, a work RAM, a VDP (video display processor), a video RAM and the like. The program ROM stores an image control program for display on the image display device 8, a variety of selection tables and the like. In addition, the image ROM stores dot data for forming an image to be displayed on the image display device 8, for example. The image control CPU determines an image to be displayed on the image display device 8 from the dot data previously stored in the image ROM, in accordance with an image control program previously stored in the program ROM, based on parameters set in the station control CPU 91. In addition, the work RAM is structured as a temporary memory to be used when the image control program is executed in the image control CPU. In addition, the VDP forms an image relating to contents of display determined in the image control CPU and outputs the image on the image display device 8. In the mean time, the video RAM is structured as a temporary memory to be used when an image is formed in the VDP.

[0108] In addition, a touch panel 50 is attached on a front of the image display device 8, as described above. Operation information of the touch panel 50 is transmitted to the station control CPU 91. As a player operates the touch panel 50 by pressing, a bet operation of chips is performed in the BET screen 61. To be more specific, a selection of the bet area 72, an operation of a unit BET button 61, or the like, is made, and the operation information thereof is transmitted to the station control CPU 91. Based on the information, the current bet information of a player (a bet area 72 indicated in the BET screen 61, the number of chips bet and a bet type) is stored in the RAM 93 at all times. Furthermore, the bet information is transmitted to the server control CPU 81 and is stored in the bet information memory area of the RAM 83.

[0109] Furthermore, the station control CPU 91 is connected to a speaker 10 through a sound output circuit 96. The speaker 10 generates a variety of effect sounds when performing various effects, based on an output signal from the sound output circuit 96. In addition, a WIN lamp 11 is connected to the station control CPU 91 through a lamp control circuit 98. When a winning is made for the number bet is made, the WIN lamp 11 is turned on by the lamp control circuit 98.

[0110] In addition, a medal sensor 97 is connected the station control CPU 91. The medal sensor 97 detects medals inserted from the medal insertion slot 6 (refer to FIG. 5), calculates the inserted medals and transmits a result thereof to the station control CPU 91. The station control CPU 91 increases the credit-number possessed by a player, which is stored in the RAM 93, based on the transmitted signal.

[0111] (Odds Management Table)

[0112] Next, an ODDS management table that is referred to when calculating a payout at a time of winning will be described with reference to FIG. 9. The ODDS management table is stored in the ROM 82 of the server 13, and a base ODDS and a specific ODDS correspond to a bet type. In addition, one number corresponds to each bet type. Note that, a base ODDS is a base ratio that is referred to when a corresponding bet type is not determined as a specific bet type in the "ODDS UP determining process" and a specific ODD is a specific ratio that is referred to when a corresponding bet type is determined as a specific bet type in the "ODDS UP determining process."

[0113] For example, a base ODDS corresponding to the bet type of "Straight" is "35:1". "35:1" means that when a credit (chip) of "1" is bet and a winning is made, the credits of "35" are paid out in addition to the original credit of "1". That is, when a winning is made in the odds of "35:1", the credits thirty-six times as much as an amount bet are paid out. In addition, a base ODDS corresponding to the bet type of "Dozen" is "2:1".

[0114] In addition, a specific ODDS corresponding to a bet type of "Straight" is "39:1". That is, when "Straight" is determined as a specific bet type in the "ODDS UP determining process" and a winning is made in a bet type of "Straight," the credits forty times as much as an amount bet are paid out. Like this, a specific ODDS has a rate higher than that of a base ODDS.

[0115] (Odds Up Subject Determining Table)

[0116] Next, an ODDS UP subject determining table that is used in the "ODDS UP determining process" will be described with reference to FIG. 10. The ODDS UP subject determining table is stored in the ROM 82 of the server 13 and has a column of number subjected to ODDS UP and a column of random number range. The numbers in the column of

number subjected to ODDS UP respectively correspond to the numbers in the ODDS management table of FIG. 9. When one random number among the random number range of “0” to “255” is randomly determined, a number subjected to ODDS UP corresponding to the random number range to which the determined random number belongs is determined as a number indicating a specific bet type.

[0117] For example, when the random number “192” is determined, the number subjected to ODDS UP “6”, which corresponds to the random number range of “190” to “195” to which the random number “192” belongs, is determined as a number indicating a specific bet type. In this case, in FIG. 9, “Line” corresponding to the number “6” becomes a specific bet type and an ODDS set for the bet type of “Line” is switched to the specific ODDS from the base ODDS. In addition, when the random number “229” is determined, the numbers subjected to ODDS UP “3, 4”, which correspond to the random number range of “226” to “231” to which the random number “229” belongs, are determined as numbers indicating specific bet types. In this case, in FIG. 9, “Street” corresponding to the number “3” and “Corner” corresponding to the number “4” become specific bet types and the ODDS set for each of the bet types of “Street” and “Corner” is switched to the specific ODDS from the base ODDS.

[0118] (Processing Operations of the Roulette Gaming Machine 1)

[0119] Next, the process operations carried out in the roulette gaming machine 1 will be described. The station control CPU 91 of each station 4 and the server control CPU 81 of the server 13 cooperate with each other to execute a game process, thereby proceeding with a unit game.

[0120] (Game Process at the Station)

[0121] The station control CPU 91 of each station 4 executes a game process routine for the station, which is shown in FIGS. 11 and 12. First, as shown in FIG. 11, the station control CPU 91 determines whether a medal or money is inserted by a player, based on a detection signal of the medal sensor 97 (S1). When a medal or money is not inserted (S1: NO), the step of S1 is repeated and the wait state is sustained until a medal or money is inserted. On the other hand, when a medal or money is inserted (S1: YES), the credit data of an amount corresponding to the number of pieces inserted is recorded in the RAM 93 (S2). Then, a medal insertion signal notifying the detection of a medal or money inserted is transmitted to the server 13 (S3).

[0122] Then, in the image display device 8 of the station 4, the BET screen 61 of FIG. 3 is displayed (S4) and a reception of a player’s bet operation is started (S5). A player who participates in a game operates the touch panel 50 to make a bet on a BET area 72 relating to a number that the player expects, during the bet period for which a bet operation is allowed (refer to FIG. 3). In the mean time, the player can participate in a game in the course of the game after the bet period is started. In the roulette gaming machine 1 according to this embodiment, maximum twelve players can play a game.

[0123] When a bet period end signal notifying that the bet period is over is received from the server 13 (S6), the reception of a bet operation on the touch panel 50 is ended (S7). Then, bet information (the indicated bet area 72, the number of chips (bet-number) bet on the indicated bet area 72 and a bet type) about the bet that is performed by the player in the station 4 is transmitted to the server 13 (S8).

[0124] Then, as shown in FIG. 12, the station control CPU 91 receives a result of the “ODDS UP determining process” from the server 13 (S9). Here, the result of the “ODDS UP determining process” is information indicating whether there is a bet type (specific bet type) to be subjected to ODDS UP and which bet type is a specific bet type. Then, it is determined whether there is a specific bet type determined in the “ODDS UP determining process” (S10). When it is determined that there is a specific bet type (S10: YES), the ODDS screen 75 is displayed on the image display device 8 (S11), as shown in FIG. 4. Then, an image showing that the ODDS corresponding to the specific bet type is switched to a specific ODDS from a base ODDS is displayed (S12).

[0125] After that, or when it is determined that there is no specific bet type (S10: NO), a payout result of credits, which is transmitted from the server 13, is received (S13). Then, based on the payout result, the credits are paid out (S14). To be more specific, the credit data is recorded in the RAM 93, and when the cashout button 48 is pushed, the medals according to the credit-number that is currently stored in the RAM 93 (typically, one medal per one credit) are paid out from the medal payout slot 9. Then, a process of turning on the WIN lamp is performed (S15) and the WIN lamp 11 is turned on at a time of winning. After that, when a game is played continuously in any one of stations 4, the process returns to the step of S4, so that a bet time is again started to transit to a next game. On the other hand, when a game is ended in all the stations 4, the game process routine for the station is ended.

[0126] (Game Process in the Server)

[0127] The server control CPU 81 of the server 13 executes a game process routine for the server, which is shown in FIGS. 11 and 12. First, as shown in FIG. 11, a medal detection signal transmitted from any of the stations 4 is received (S101) and a bet period for which a bet operation of a player is received is started (S102). Then, it is determined whether the remaining bet period becomes 5 seconds (S103). Meantime, the remaining bet period is displayed in the BET time display section 69, on the image display device 8 (refer to FIG. 3). When it is determined that the remaining bet period does not become 5 seconds (S103: NO), the step of S103 is repeated and a wait state is sustained until the remaining bet period becomes 5 seconds. On the other hand, when it is determined that the remaining bet period becomes 5 seconds (S103: YES), the ball insertion device is driven to insert a ball 27 into the wheel 22 (S104). Furthermore, the drive motor is driven to rotate the wheel 22 at a predetermined rotating speed in a direction opposite to the ball inserting direction. The inserted ball 27 rolls on the wheel 22 along the guide wall 29. Then, when the centrifugal force is decreased as the rotation speed of the ball 27 is lowered, the ball 27 is rolled down along the inclined surface of the frame 21, is moved inwardly and reaches the center part of the wheel 22 being rotated (refer to FIG. 6).

[0128] Then, it is determined whether the bet period is over or not (S105). When it is determined that the bet period is not over (S105: NO), the step of S105 is repeated and a wait state is sustained until the bet period is over. On the other hand, when it is determined that the bet period is over (S105: YES), a bet period end signal notifying that the bet period is over is transmitted to each of the stations 4 (S106). Then, the bet information (the indicated bet area 72, the number of chips (bet-number) bet on the indicated bet area 72 and a bet type) about the bet that is performed by the player in each of the stations 4 is received and stored in the RAM 83 (S107).

[0129] After that, the credits corresponding to 0.5% of a sum of the credits bet in the respective stations 4 are accumulatively added to the credit-number of a JP manner, which is recorded in the RAM 83 (S108). Correspondingly, the display of the JP amount display unit 15 or JP display section 73 is updated.

[0130] Here, the ball 27, which is rolled onto the wheel 22, passes over the numbered plates 25 at the periphery of the wheel 22 being rotated and then is received in any one of the numbered pockets 23. As a result, the number (any one of "00", "0" and "1" to "36" in FIG. 6) indicated on the numbered plate 25 corresponding to the numbered pocket 23 having the ball 27 received therein becomes a win number. After the ball 27 is received in the numbered pocket 23 the server control CPU 81 drives the win determining device 86 to determine the numbered pocket 23 into which the ball 27 is received (S109). Thereby, a win number is determined.

[0131] Then, as shown in FIG. 12, the sever control CPU 81 performs an ODDS UP determining process (S110). A result of the ODDS UP determining process is transmitted to each station 4 (S111). Then, it is determined whether a winning is made for the chips bet in each station 4, based on the bet information received from each station 4 and the win number (S112).

[0132] Then, a payout calculating process is executed (S113). In the payout calculating process, a win chip that is bet on the win number is recognized for each station 4. When a winning is made, the ODDS management table (refer to FIG. 9) stored in the ROM 82 is referred to. Herein, when a bet type relating to a winning is not a specific bet type, the base ODDS is used and when a bet type relating to a winning is a specific bet type, the specific ODDS is used, so that a sum of the payouts of credits to be paid out to each station 4 is calculated.

[0133] After that, the payout result of credits based on the payout calculating process is transmitted to each station 4 (S114). Then, the credit-number of a JP manner is subtracted, as required (S115). That is, when a winning is made in the specific bet type determined in the "ODDS UP determining process," a half of the payout to be paid out to a player is paid out from the credit-number of a JP manner. Correspondingly, the display of the JP amount display unit 15 or JP display section 73 is updated. Then, the ball collection device provided below the wheel 22 is driven to collect the ball 27 on the wheel 22 (S116). After that, when a game is continuously played in any one of the stations 4, the process returns to the step of S102, so that a bet time is again started. On the other hand, when the game is ended in all the stations 4, the game process routine for the server is ended.

[0134] As described above, the payout ratio (ODDS) set for a specific bet type randomly determined among all bet types is switched from a base ratio (base ODDS) to a specific ratio (specific ODDS). Thereby, when a bet is made in a specific bet type and a winning is made in the specific bet type, a payout to be awarded is larger, as compared to a base. Therefore, a player's expectation may be increased without deteriorating a game characteristic of a conventional roulette gaming machine. In addition, since an image showing that the payout ratio is being switched is displayed on the display (image display device 8), a player can watch the display to know whether a payout ratio set for a bet type corresponding to a bet area on which the player makes a bet is switched. As a result, a player's expectation may be further increased.

[0135] In the above embodiment, all players who participate in a unit game can enjoy a benefit that a payout to be awarded at a time of winning is larger than a base, through the "ODDS UP determining process." However, it may be possible that only a player who pays an entry fee separately from the chip can enjoy a benefit that a payout to be awarded at a time of winning is higher than a base. In other words, it may be possible: when a winning is made in a specific bet type determined in the "ODDS UP determining process," if a player having the winning has not paid an entry fee in advance, a payout for the player is calculated using the base ODDS. On the other hand, if a player having the winning has paid an entry fee in advance, a payout for the player is calculated using the specific ODDS.

[0136] In addition, when a winning is made in a specific bet type determined in the "ODDS UP determining process," a half of the payout is paid out from the credit-number of a JP manner. However, the invention is not limited thereto. For example, as described above, for a case where only a player who have paid an entry fee separately from the chip can enjoy a benefit that a payout to be awarded at a time of winning is larger than a base, the entry fee paid by the player may be accumulated and a part or all of the payout may be paid out from the total sum of the accumulated entry fees.

[0137] Although the above descriptions have been provided with regard to the characteristic parts so as to understand the invention more easily, the invention is not limited to the embodiment as described above and can be applied to the other embodiments and the applicable scope should be construed as broadly as possible. Furthermore, the terms and phraseology used in the specification have been used to correctly illustrate the invention, not to limit it. In addition, it will be understood by those skilled in the art that the other structures, systems, methods and the like included in the spirit of the invention can be easily derived from the spirit of the invention described in the specification. Accordingly, it should be considered that the invention covers equivalent structures thereof without departing from the spirit and scope of the invention as defined in the following claims. Further, the abstract is provided so that an intellectual property office and a general public institution or one skilled in the art who is not familiar with patent and legal or professional terminology can quickly analyze the technical features and essences of the invention through a simple investigation. Accordingly, the abstract is not intended to limit the scope of the invention that should be evaluated by the claims. In addition, it is required to sufficiently refer to the documents that have been already disclosed, so as to fully understand the objects and effects of the invention.

[0138] The above descriptions include a process that is executed on a computer or computer network. The above descriptions and expressions have been provided so that the one skilled in the art can understand the invention most effectively. In the specification, the respective steps used to induce one result or blocks having a predetermined processing function should be understood as a process having no self-contradiction. In addition, the electrical or magnetic signal is transmitted/received and written in the respective steps or blocks. Although the processes in the respective steps or blocks embody the signal as a bit, value, symbol character, term, number and the like, it should be noted that these have been used for the convenience of descriptions. Further, although the processes in the respective steps or blocks have been often described as an expression common to a human action, the

process described in the specification is executed by a variety of devices in principle. In addition, the other structures necessary for the respective steps or blocks are apparent from the above descriptions.

[0139] While this invention has been described in conjunction with the specific embodiments outlined above, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art. Accordingly, the preferred embodiments of the invention as set forth above are intended to be illustrative, not limiting. Various changes may be made without departing from the spirit and scope of the invention as defined in the following claims.

What is claimed is:

1. A roulette gaming machine comprising:

a roulette device in which a ball rolls on a wheel having a plurality of marks disposed thereon;
a display that displays a plurality of bet areas each of which corresponding to at least one mark and one bet type and on each of which a game value is bet;
an input device that receives an operation from an outside;
and

a controller programmed to perform operations of:

- (a) betting a game value on a bet area associated with the operation received by the input device from the outside, in a bet type corresponding to the bet area;
- (b) rolling the ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball;
- (c) when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout on the basis of the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area; and
- (d) randomly switching the payout ratio set for a specific bet type between a base ratio and a specific ratio higher than the base ratio.

2. A roulette gaming machine comprising:

a roulette device in which a ball rolls on a wheel having a plurality of marks disposed thereon;
a display that displays a plurality of bet areas each of which corresponding to at least one mark and one bet type and on each of which a game value is bet;
an input device that receives an operation from an outside;
and

a controller programmed to perform operations of:

- (a) betting a game value on a bet area associated with the operation received by the input device from the outside, in a bet type corresponding to the bet area;
- (b) rolling the ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball;
- (c) when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout on the basis of the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area;
- (d) randomly determining, as a specific bet type, one or more bet types among all bet types; and
- (e) switching the payout ratio set for the specific bet type from a base ratio to a specific ratio higher than the base ratio.

3. A roulette gaming machine comprising:

a roulette device in which a ball rolls on a wheel having a plurality of marks disposed thereon;

a display that displays a plurality of bet areas each of which corresponding to at least one mark and one bet type and on each of which a game value is bet;

an input device that receives an operation from an outside;
and

a controller programmed to perform operations of:

- (a) betting a game value on a bet area associated with the operation received by the input device from the outside, in a bet type corresponding to the bet area;
- (b) rolling the ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball;
- (c) when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout on the basis of the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area;
- (d) randomly switching the payout ratio set for a specific bet type between a base ratio and a specific ratio higher than the base ratio; and
- (e) displaying an image showing that the payout ratio is being switched, on the display, before the payout is awarded.

4. A roulette gaming machine comprising:

a roulette device in which a ball rolls on a wheel having a plurality of marks disposed thereon;
a display that displays a plurality of bet areas each of which corresponding to at least one mark and one bet type and on each of which a game value is bet;
an input device that receives an operation from an outside;
and

a controller programmed to perform operations of:

- (a) betting a game value on a bet area associated with the operation received by the input device from the outside, in a bet type corresponding to the bet area;
- (b) rolling the ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball;
- (c) when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout on the basis of the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area;
- (d) randomly determining, as a specific bet type, one or more bet types among all bet types;
- (e) switching the payout ratio set for the specific bet type from a base ratio to a specific ratio higher than the base ratio; and
- (f) displaying an image showing that the payout ratio is being switched, on the display, before the payout is awarded.

5. A playing method of a roulette game that repeatedly executes a unit game in which a ball rolls on a wheel having a plurality of marks disposed thereon, the method comprising the steps of:

- (a) betting a game value on a bet area, among a plurality of bet areas displayed on a display, associated with an operation received by an input device from an outside, in a bet type corresponding to the bet area;
- (b) rolling the ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball;
- (c) when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout based on the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area; and

- (d) randomly switching the payout ratio set for a specific bet type between a base ratio and a specific ratio higher than the base ratio.
- 6. A playing method of a roulette game that repeatedly executes a unit game in which a ball rolls on a wheel having a plurality of marks disposed thereon, the method comprising the steps of:
 - (a) betting a game value on a bet area, among a plurality of bet areas displayed on a display, associated with an operation received by an input device from an outside, in a bet type corresponding to the bet area;
 - (b) rolling the ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball;
 - (c) when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout based on the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area;
 - (d) randomly determining, as a specific bet type, one or more bet types among all bet types; and
 - (e) switching the payout ratio set for the specific bet type from a base ratio to a specific ratio higher than the base ratio.
- 7. A playing method of a roulette game that repeatedly executes a unit game in which a ball rolls on a wheel having a plurality of marks disposed thereon, the method comprising the steps of:
 - (a) betting a game value on a bet area, among a plurality of bet areas displayed on a display, associated with an operation received by an input device from an outside, in a bet type corresponding to the bet area;
 - (b) rolling the ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball;
 - (c) when the specific mark and the bet area on which the game value is bet have a corresponding relation, award-

- ing a payout based on the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area;
- (d) randomly switching the payout ratio set for a specific bet type between a base ratio and a specific ratio higher than the base ratio; and
- (e) displaying an image showing that the payout ratio is being switched, on the display, before the payout is awarded.
- 8. A playing method of a roulette game that repeatedly executes a unit game in which a ball rolls on a wheel having a plurality of marks disposed thereon, the method comprising the steps of:
 - (a) betting a game value on a bet area, among a plurality of bet areas displayed on a display, associated with an operation received by an input device from an outside, in a bet type corresponding to the bet area;
 - (b) rolling the ball, thereby setting, as a specific mark, a mark corresponding to a stop position of the ball;
 - (c) when the specific mark and the bet area on which the game value is bet have a corresponding relation, awarding a payout based on the game value bet on the bet area and a payout ratio set for the bet type corresponding to the bet area;
 - (d) randomly determining, as a specific bet type, one or more bet types among all bet types;
 - (e) switching the payout ratio set for the specific bet type from a base ratio to a specific ratio higher than the base ratio; and
 - (f) displaying an image showing that the payout ratio is being switched, on the display, before the payout is awarded.

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