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(54) Gaming machine

(57) A gaming machine for executing a subgame in parallel with a main game, the gaming machine includes: a main game control means for dealing a plurality of elements and determining the result of the main game in response to the dealt plurality of elements; a dealt element storage means for storing the plurality of elements dealt by the main game control means; and a subgame control means for determining the result of the subgame based on the dealt plurality of elements stored in the dealt element storage means.

EP 1 640 928 A2

Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] This invention relates to a gaming machine, a game control method, and their programs and more particularly to a gaming machine, a game control method, and their programs for making it possible to decrease the possibility of a one-sided lost game of a player by enabling the player to play a main game such as blackjack, for example, and a subgame played using the main game in parallel.

Description of the Related Art

[0002] In a game arcade, a large number of gaming machines for a sole player to enjoy a game with a dealer player or another player in the relation that if one wins the game, the other loses the game, such as blackjack, poker, or baccarat become widespread. (For example, refer to JP-A-10-508236.)

[0003] The user joins a game provided by this kind of gaming machine as a player and plays the game with a dealer played by a CPU of the gaming machine or another player. If the user wins the game, he or she can gain valuable resource of a coin, a medal, credit, etc., or non-valuable resource of a game chip, etc., which will be hereinafter collectively called "coin, etc. On the other hand, if the dealer played by the CPU of the gaming machine or another player wins the game, the user of the player loses his or her coin, etc. This gaming machine is disclosed in JP-A-5-49755.

[0004] In the gaming machine as described above, under circumstances where the CPU is stronger than the player because the logic of the CPU opposed to the player of the user is superior or advantageous cards are continuously dealt to the CPU, the player of the user continues to lose games and cannot sufficiently enjoy games; this is a problem.

[0005] As a method of adjusting the situation in which the CPU is superior to the user and the user is hard to increase the number of coins on hand, it is also possible to give the player an opportunity for increasing the number of gained coins by allowing the player to play a bonus game if the user gains a coin. However, the payout rate (the percentage of the number of coins, etc., gained by the user to the number of coins, etc., consumed for the game by the player) may become considerably high depending on the type of game and if a bonus game is introduced, there is a possibility that the payout rate may exceed 100% and therefore it is difficult to introduce a bonus game; this is a problem.

SUMMARY OF THE INVENTION

[0006] It is an object of the invention to provide a gaming machine, a game control method, and their programs for decreasing the possibility of a one-sided lost game of a player by enabling the player to play a subgame played using a main game in parallel with the main game.

[0007] In order to achieve the object, the invention has the following features:

A first form of the invention is proposed as a gaming machine for executing a subgame in parallel with a main game. The expression "in parallel with" mentioned here is used to means that the subgame is started and terminated while the main game is started and terminated although they are not executed at the same time strictly speaking.

[0008] The gaming machine has a main game control unit (for example, corresponding to main game control section) for dealing a plurality of elements and determining the result of the main game in response to the dealt plurality of elements; a dealt element storage means (for example, corresponding to dealt element storage section) for storing the plurality of elements dealt by the main game control means; and a subgame control means (for example, corresponding to subgame control section) for determining the result of the subgame based on the dealt plurality of elements stored in the dealt element storage means.

[0009] The term "elements" mentioned here are used to mean elements used with a game using a set of tools made up of different types of elements, such as cards of playing cards, cards of trading cards, cards of Japanese playing cards, or mah-jongg tiles.

[0010] The term "deal (ing)" mentioned here is used to mean determining that one of the elements becomes a part of a combination of elements on hand of a person joining the game (player, etc.,) or an interested person (dealer, etc.,); in the specification, when one of the elements becomes a part of a combination of elements on hand of a person joining the game, etc., the element is dealt.

[0011] The gaming machine can provide a game to decrease the possibility of a one-sided lost game of a player by enabling the player to play a subgame played using a main game in parallel with the main game.

[0012] In the gaming machine, the main game may be a game wherein a dealer and one or more players play the game each other and the subgame control means may determine the result of the subgame based on an element combination containing at least one element dealt to the dealer.

[0013] According to the feature, if an advantageous element (for example, a strong card, a card advantageous for winning the game, etc.,) is dealt to the dealer and the possibility that the dealer will win the main game is high, the advantageous element is of benefit to the player in the subgame and thus the possibility of a one-sided lost game of the player is decreased.

[0014] In the gaming machine, the plurality of elements are a plurality of cards, and the main game may be blackjack and the subgame control means may determine the

result of the subgame based on a combination of plurality of cards containing an open card dealt to the dealer and at least one card dealt to each player.

[0015] Further, in the gaming machine, the subgame control means may store a plurality of combinations of the plurality of cards, and the value to be paid out if the combination of the plurality of cards is complete, and maybe set so that the value of valuable resource to be paid out more increases as the plurality of cards contain a card for making a stronger card combination of the dealer.

[0016] According to the gaming machine, as the element combination of the dealer is more advantageous, the possibility that the dealer will be able to gain the larger value of valuable resource in the subgame increases and consequently the possibility of a one-sided lost game of the player is decreased.

[0017] A second form of the invention is proposed as a game control method.

The game control method corresponds to a method of executing the first form of the gaming machine. This method includes: dealing a plurality of elements in a main game; determining the result of the main game in response to the plurality of elements determined in the dealing; and determining the result of the subgame in response to the plurality of elements determined in the dealing.

[0018] In the game control method, the main game may be a game wherein a dealer and one or more players play the game each other and in the determination of the result of the subgame, the result of the subgame may be determined based on an element combination containing at least one element dealt to the dealer.

[0019] In the game control method, the plurality of elements are a plurality of cards, and the main game may be blackjack and in the determination of the result of the subgame, the result of the subgame may be determined based on a combination of plurality of cards containing an open card dealt to the dealer and at least one card dealt to each player.

[0020] The game control method may further includes previously storing a plurality of combinations of the plurality of cards, and the value to be paid out if the combination of the plurality of cards is complete, wherein in the determination of the result of the subgame, setting may be made so that the value of valuable resource to be paid out to the player winning the game more increases as the plurality of cards contain a card for making a stronger card combination of the dealer.

[0021] The invention also comes into existence as a program for causing a computer to function as the above-described gaming machine. The invention also comes into existence as a program for causing a computer to execute the above-described game control method.

[0022] The invention makes it possible to decrease the possibility of a one-sided lost game of a player as the player is allowed to play a subgame played using a main game in parallel with the main game.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] These and other objects and advantages of the present invention will be more fully apparent from the following detailed description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a functional block diagram to show a basic configuration example of a gaming machine according to the first embodiment according to the invention;
FIG. 2 is a block diagram to show a hardware configuration example of a main board of a game control unit;
FIG. 3 is a functional block diagram of the game control unit;
FIG. 4 is a flowchart to show a main processing example of an operation example of the gaming machine according to the embodiment of the invention;
FIG. 5 is a flowchart to show an example of main game execution processing;
FIG. 6 is a flowchart to show an example of subgame execution processing;
FIG. 7 is a block diagram to show the basic configuration of the gaming machine;
FIG. 8. is an external perspective view of the gaming machine;
FIG. 9 is a drawing to show a placement example of an optical system stored in a table section;
FIG. 10 is a block diagram to show an electric configuration example of the gaming machine;
FIG. 11 is a drawing to show a screen example displayed on a front display;
FIG. 12 is a drawing to show a table example to show combinations in a subgame and multiplying powers;
FIG. 13 is a drawing to show a screen example displayed on a table screen;
FIG. 14 is a drawing to show an example of the storage contents of a dealt element storage section;
FIG. 15 is a drawing to show a screen example displayed on the table screen after the screen in FIG. 13;
FIG. 16 is a drawing to show an example of the storage contents of the dealt element storage section in the state in FIG. 15;
FIG. 17 is a drawing to show a screen example displayed on the table screen after the screen in FIG. 15;
FIG. 18 is a drawing to show an example of the storage contents of the dealt element storage section in the state in FIG. 17;
FIG. 19 is a drawing to show a screen example displayed on the table screen after the screen in FIG. 17;
FIG. 20 is a drawing to show an example of the storage contents of the dealt element storage section in the state in FIG. 19;
FIG. 21 is a drawing to show a screen example displayed on the table screen after the screen in FIG. 19;

FIG. 22 is a drawing to show an example of the storage contents of the dealt element storage section in the state in FIG. 21;

FIG. 23 is a drawing to show a screen example displayed on the table screen after the screen in FIG. 21; and

FIG. 24 is, a drawing to show a screen example displayed on the table screen when the number of players is four.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0024] Referring now to the accompanying drawings, there are shown preferred embodiments of the invention.

First embodiment

[0025] To begin with, a first embodiment according to the invention will be discussed with reference to FIG. 1. FIG. 1 is a functional block diagram to show a basic configuration example of a gaming machine according to the first embodiment according to the invention.

[0026] A gaming machine 100 has an input unit 101 for a player to enter a command or an instruction of bet, card draw, stay, etc., into the gaming machine 100, a game control unit 102 for executing a game in accordance with the command or the instruction entered through the input unit 101 and a predetermined game procedure, a display unit 103 for displaying an image to transmit the game progress state to the player (for example, game screen) in response to a game image display instruction from the game control unit 102, and a billvali unit 104 for accepting valuable resource (coin, etc.,) paid by the player by way of compensation for playing the game, informing the game control unit 102 of the valuable resource, receiving the value of the valuable resource to be paid out to the player in response to the game result from the game control unit 102, and paying out all or a part of the valuable resource owned or gained by the player at the point in time in response to a player's request.

[0027] The input unit 101 is, for example, a control panel and has appropriate input devices of a bet button, a start button, a game stick, a pointing device, etc., and converts a player's entry into a predetermined signal, and transmits the signal to the game control unit 102.

[0028] The game control unit 102 is, for example, a main board installing a microcomputer. FIG. 2 shows a hardware configuration example of the main board of the game control unit 102.

[0029] The main board has a microcomputer 201, an I/O interface 202 connected to the microcomputer 201, and an image control circuit 203, a hopper drive circuit 205, and a payout completion signal circuit 204 connected to the I/O interface 202.

[0030] The microcomputer 201 has a main CPU (Central Processing Unit) 206, RAM (Random Access Memory) 207, ROM (Read-Only Memory) 208, and a bus 209.

[0031] The main CPU 206 functions in accordance with a program stored in the ROM 208 and inputs a signal from the input unit 101 through the image control circuit 203 and the bus 209 and also inputs/outputs signals from/to other components for controlling the whole operation of the gaming machine 100. The RAM 207 stores data and a program used for the main CPU 206 to function. The ROM 208 stores the programs executed by the main CPU 206 and permanent data.

[0032] The main board further has a hopper drive circuit 205 for diving the billvali unit 104, a payout completion signal circuit 204, and an image control circuit 203 for controlling the image to be displayed on the display unit 103.

[0033] The hopper drive circuit 205 drives a hopper (not shown), etc., installed in the billvali unit 104 under the control of the main CPU 206, and the hopper performs the operation for paying out coins of valuable resource and pays out coins to a coin receiving tray.

[0034] A coin detection section (not shown) installed in the billvali unit 104 measures the number of coins paid out by the hopper and sends the data of the measured number of coins to the payout completion signal circuit 204. The payout completion signal circuit 204 inputs the data of the number of coins from the coin detection section. When the number of coins reaches the data of the setup number of coins, the payout completion signal circuit 204 outputs a signal indicating coin payout completion to the main CPU 206.

[0035] The image control circuit 203 generates a control signal concerning image display on the display unit 103 for displaying a game screen on the display unit 103. The image control circuit 203 is made up of an image control CPU, work RAM, program ROM, image ROM, video RAM, a VDP (Video Display Processor), and the like, for example. The image control CPU determines the image to be displayed on the display unit 103 (playing card image, etc.,) in accordance with an image control program previously stored in the program ROM based on the parameters set by the microcomputer 201. The work RAM is implemented as a temporary storage unit for the image control CPU to execute the image control program.

[0036] Next, the function of the game control unit 1.02 will be discussed with reference to FIG. 3. FIG. 3 is a functional block diagram of the game control unit 102.

[0037] As shown in FIG. 3, the game control unit 102 has a main game control section 301, a subgame control section 302, a dealt element storage section 303 connected to the main game control section 301 and the subgame control section 302, a valuable resource management section 304 connected to the main game control section 301 and the subgame control section 302, and an image processing section 305 connected to the main game control section 301.

[0038] The main game control section 301 has a function of controlling the progress of a main game provided

by the gaming machine 100. The main game control section 301 determines how the game is won or lost based on what elements are dealt to whom and the dealt elements with respect to the persons joining the game and receiving dealing of elements (containing both the player and the dealer), and pays out valuable resource (for example, coin) to the player based on the determination result.

[0039] The term "elements" mentioned here refers to a gaming tool used for the game, wherein there are different types of elements used in one game and completion of a given prize can be determined in response to a combination of the dealt element types, such as playing cards, Japanese playing cards, mah-j ongg tiles, or trading cards, for example. The gaming machine in the embodiment executes a game using such elements as the main game. If the elements are playing cards, the main game is blackjack, poker, baccarat, bridge, etc. Any game may be executed as the main game of the gaming machine if it is a game using the elements.

[0040] The subgame control section 302 determines whether or not a given prize (different from a prize of the main game) is complete in response to the element dealing result of the main game control section 301. If a given prize is complete, the subgame control section 302 pays out a predetermined valuable resource to the player, etc.

[0041] The main game control section 301 and the subgame control section 302 are mainly implemented as the microcomputer 201.

[0042] The dealt element storage section 303 has a function of storing what elements have been dealt to whom in accordance with the processing result of the main game control section 301. The subgame control section 302 determines whether or not a given prize (different from a prize of the main game) is complete based on the storage contents of the dealt element storage section 303. The dealt element storage section 303 is mainly implemented as the RAM 207.

[0043] The valuable resource management section 304 has a function of managing the valuable resources already input and already gained by each player, receiving a payout instruction based on the results of the main game and the subgame from the main game control section 301 and the subgame control section 302, and managing increasing or decreasing the valuable resource value in response to a payout request from the billvali unit 104. The valuable resource management section 304 is mainly implemented as the payout completion signal circuit 204 and the hopper drive circuit 205.

[0044] The image processing section 305 performs image display control processing of causing the display unit 103 to display elements for the player in response to the element dealing progress and causing the display unit 103 to display a game screen for informing the player of the game progress state. The image processing section 305 is mainly implemented as the image control circuit 203.

Operation example of gaming machine

[0045] Next, an operation example of the gaming machine according to the embodiment will be discussed.

[0046] FIG. 4 is a flowchart to show a main processing example of an operation example of the gaming machine according to the embodiment. The operation example of the gaming machine will be discussed with reference to FIG. 4.

Main processing

[0047] First, when a power switch of the gaming machine 100 is turned on, the gaming machine 100 performs initialization processing of initializing memory, read the program stored in the ROM 208, starting-up, etc., (S401).

[0048] When the initialization processing is complete and starting the gaming machine 100 is complete, the gaming machine 100 performs bet wait processing of waiting for a player to bet on a main game and a subgame (S402). In the bet wait processing, the gaming machine 100 waits for the player to perform input processing through the input unit 101. In the embodiment, the player can bet on a main game and a subgame separately. For example, the players may bet in such a manner that player A bets three coins on the main game and one coin on the subgame, player B bets 10 coins on the main game and 20 coin on the subgame, and player C bets 10 coins on the main game and 0 coins on the subgame.

[0049] The microcomputer 201 of the game control unit 102 determines an acceptance end condition. If it is determined that the acceptance end condition is met, the gaming machine 100 terminates the bet wait processing (S402). The acceptance end condition is the passage of a predetermined time, the end of bet input of all players, etc., for example.

[0050] The bet on the subgame may be accepted only if the player bets on the main game, or may be accepted regardless of whether or not the player bets on the main game.

[0051] When the bet wait processing (S402) terminates, the gaming machine 100 executes main game execution processing (S403) and subgame execution processing (S404). The flowchart of FIG. 4 shows that the main game execution processing (S403) and the subgame execution processing (S404) are performed in parallel, but the main game execution processing and the subgame execution processing need not necessarily be performed in parallel. In the invention, the subgame execution processing (S404) may be executed after completion of the main game execution processing (S403).

Main game execution processing

[0052] The main game execution processing (S403) is processing of repeating element dealing according to the rule of the main game until a predetermined condition is met and determining the winner of the game and the

valuable resource gained by the winner of the game in response to the already dealt elements when the condition is met. The main game execution processing is performed by the main game control section 301. FIG. 5 is a flowchart to show an example of the main game execution processing. When the main game execution processing is started, first the main game control section 301 starts element dealing processing (S501). Before starting to deal the elements, the main game control section 301 may previously determine the element dealing order according to a random number, etc., in such a manner that the playing cards are previously cut, for example. The main game control section 301 deals the elements to the dealer and players based on the dealing order. The term "dealing" mentioned here is used to mean processing of recording the fact that one element becomes the element of the dealer or the player to whom the element has been dealt. Which of the dealer and the players the element is to be dealt according to the dealing order depends on the rule of the main game. For example, if the main game is blackjack, the first element (card) in the dealing order is dealt to the dealer, the second element in the dealing order is dealt to the first player, and the third element in the dealing order is dealt to the second player.

[0053] Upon completion of the element dealing processing, the main game control section 301 performs win or loss determination processing of determining whether or not a win or loss determination condition is met (S502). The win or loss determination condition is a condition making it possible to determine the game winner according to the rule of the main game. For example, if the main game is blackjack, the condition is that two cards have been dealt to each of the dealer and the players; if the main game is poker, the condition is that all players remaining in the game have declared call. The main game control section 301 stores the win or loss determination condition in the ROM 208, etc., and determines the win or loss determination condition based on the storage contents of the ROM 208 and the storage contents of the dealt element storage section 303.

[0054] If it is determined in the win or loss determination condition determination processing that the condition is not met (NO at S502), the main game control section 301 returns to the element dealing processing (S501) and continues the game.

[0055] On the other hand, if it is determined in the win or loss determination condition determination processing that the condition is met (YES at S502), the main game control section 301 performs win or loss and gained valuable resource determination processing (S503). That is, the main game control section 301 determines the element combination on hand of each of the dealer and the players and determines superiority or inferiority of each element combination on hand based on the storage contents of the dealt element storage section 303 and further determines the winner based on superiority or inferiority of each element combination on hand. If the player wins the game, the main game control section 301 calculates the gained valuable resource responsive to the element combination on hand. The main game control section 301 reports the calculated gained valuable resource to the valuable resource management section 304, which then adds the reported gained valuable resource to the value of the valuable resource owned by the player for storage.

[0056] Upon completion of the win or loss and gained valuable resource determination processing, the main game execution processing is complete and the subroutine returns to the main routine (see the flowchart of FIG. 4).

Subgame execution processing

[0057] The subgame execution processing (S404) is also performed in parallel with the main game execution processing. The subgame execution processing is processing of determining the winner of the subgame and the valuable resource gained by the winner of the subgame in response to the already dealt elements according to the rule of the main game. The subgame execution processing is performed by the subgame control section 302.

[0058] FIG. 6 is a flowchart to show an example of the subgame execution processing. An example of the subgame execution processing will be discussed with reference to FIG. 6.

When the subgame execution processing is started, the subgame control section 302 performs win or loss determination processing of determining whether or not a win or loss determination condition concerning the subgame is met (S601). In the subgame execution processing, processing equivalent to the element dealing processing (S501) in the main game execution processing is not performed and the win or loss of the game is determined based on the already dealt elements determined in the main game execution processing. That is, in the subgame execution processing, the subgame control section 302 performs the win or loss determination processing based on the storage contents of the dealt element storage section 303.

[0059] The win or loss determination condition is a condition making it possible to determine the game winner according to the rule of the subgame. The win or loss determination condition of the subgame may be defined according to the contents of the subgame and may be the same as the win or loss determination condition of the main game. The subgame control section 302 stores the win or loss determination condition in the ROM 208, etc., and determines the win or loss determination condition based on the storage contents of the ROM 208 and the storage contents of the dealt element storage section 303.

[0060] If it is determined in the win or loss determination condition determination processing that the condition is not met (N0 at S601), the subgame control section 302

continues the game and waits for meeting the win or loss determination condition.

[0061] On the other hand, in the win or loss determination condition determination processing, if the subgame control section 302 determines that the condition is met (YES at S601), the subgame control section 302 performs win or loss and gained valuable resource determination processing (S602). That is, the subgame control section 302 determines the element combination on hand of each of the players based on the storage contents of the dealt element storage section 303 and calculates the gained valuable resource responsive to the element combination on hand. If the element combination on hand of the dealer is strong in the main game and the player loses the game, preferably the element combination on hand in the subgame is selected so that the possibility that the player losing the game will win the subgame becomes high. For example, if the main game is blackjack, when a card with a high possibility that blackjack will be formed (for example, ace) is dealt to the dealer, the element combination on hand containing the card (for example, combination made up of one ace and one picture card) is adopted as the element combination on hand in the subgame.

[0062] Upon completion of the win or loss and gained valuable resource determination processing, the subgame execution processing is complete and the subroutine returns to the main routine (see the flowchart of FIG. 4).

[0063] Referring again to FIG. 4, the description of the main processing is continued. Upon completion of the main game execution processing (S403) and the subgame execution processing (S404), the gaming machine 100 performs adjustment processing of the valuable resources gained by playing the main game and the subgame (S405). That is, when the adjustment processing is started, the main game control section 301 and the subgame control section 302 report the calculated gained valuable resources to the valuable resource management section 304, which then adds the gained valuable resources reported from the main game control section 301 and the subgame control section 302 to the value of the valuable resource owned by the player for storage.

[0064] If the player makes a request for paying out the valuable resource stored by performing the adjustment processing, payout processing of ejecting coins, etc., from the billvali unit 104 is performed or for the player to execute another game, the valuable resource used for bet can be paid out from the stored valuable resource.

[0065] Upon completion of the adjustment processing, the gaming machine 100 returns to the bet wait processing (S402) and waits for the player to bet for starting another game.

[0066] The description of the main processing of the operation example of the gaming machine 100 is now complete.

[0067] Next, an example of the invention will be discussed.

Gaming machine cabinet

[0068] FIG. 7 is a block diagram to show the basic configuration of the gaming machine 100 of one example of the invention.

[0069] The gaming machine 100 has an image forming section 710, a video control section 730 for supplying image data, a projection section 720 for projecting an image onto the front of the image forming section 710 based on the image data from the video control section 730, an image pickup section 750 for photographing the image forming section 710 formed with a shadow PS of a pointing section P from the rear of the image forming section 710, a position detection section 760 for receiving the image data of the rear of the image forming section 710 output from the image pickup section 750, determining the position of the shadow PS of the pointing section P from the image data, and outputting position information, and a general control section 770 for performing game execution processing based on the position information output from the position detection section 760 and specifying the image to be projected onto the image forming section 710 for the video control section 730.

[0070] The image forming section 710 has transparency and allows light from the front and the rear to pass through. The image forming section 710 is a translucent screen for a liquid crystal projector, for example. The translucent screen of the image forming section 710 contains a screen having a light scattering layer for efficiently scattering light from a liquid crystal projector, etc., and displaying light contrast video.

[0071] When a user U views the image forming section 710 from the front of the image forming section 710, the user U sees the optical image emitted by the projection section 720 from the rear of the image forming section 710 on the image forming section 710 and consequently can see the image corresponding to the image data, projected hy the projection section 720.

[0072] The image forming section 710, the projection section 720, and the video control section 730 function as an image display section 740 in cooperation with each other. The image forming section 710, the image pickup section 750, and the position detection section 760 function as an input detection section 780 in cooperation with each other. The image display section 740 corresponds to the display unit 103 described above and the input detection section 780 corresponds to the input unit 101 described above. The general control section 770 corresponds to the game control unit 102 (except the image processing section 305). The gaming machine 100 also has a mechanism corresponding to the billvali unit 104, but the mechanism is not shown in FIG. 7.

[0073] The pointing section P is a substance or unit for the user to point to any desired part of the image displayed on the front of the image forming section 710; for example, it is a hand (or an arm) of the user U, a pointing rod, etc. The pointing section P is illuminated by a light source LS and the shadow PS of the pointing section P

is reflected on the image forming section 710. Since the image forming section 710 has transparency, the shadow PS is seen if it is seen from the rear of the image forming section 710. The light source LS may be a natural light source such as the sun, may be an illumination device installed in the environment (indoor) where an information input unit 1 is placed, or may be an illumination device such as a fluorescent lamp installed in the gaming machine 100.

[0074] The projection section 720 is an optical projection system that can project an optical image onto the image forming section 710 based on image data; for example, it is a liquid crystal projector (DLP (Digital Liquid Projector)), etc. Preferably the light source LS is a light source for emitting white light. As white light passes through the image forming section 710, the region of the shadow PS of the pointing section P is seen black in the rear of the image forming section 710 and any other region than the shadow PS is seen white, providing an image equivalent to a monochrome image.

[0075] The image pickup section 750 is a section for generating image data of the rear of the image forming section 710; for example, it is a digital camera, a digital video camera, a CCD camera unit, etc.

[0076] The video control section 730, the position detection section 760, and the general control section 770 are an apparatus including a central processing unit (CPU), main memory (RAM), read-only memory (ROM), an input/output unit (T/O), and external storage such as a hard disk drive as required; for example, the apparatus is an information processing apparatus such as a computer, a workstation, or an LSI chip. A program for causing an information processing apparatus to function as the video control section 730, the position detection section 760, the general control section 770 is stored in the ROM or the hard disk drive, etc., and the program is loaded into the main memory and is executed by the CPU, whereby the video control section 730, the position detection section 760, or the general control section 770 is provided. The program need not necessarily be stored in the storage in the information processing apparatus and may be provided from an external apparatus (for example, a server of ASP (Application Service Provider) or the like) and may be loaded into the main memory.

[0077] The video control section 730, the position detection section 760, and the general control section 770 may be implemented each as a separate information processing apparatus or one information processing apparatus may function as the video control section 730, the position detection section 760, and the general control section 770.

[0078] The video control section 730 stores a plurality of pieces of image data to be provided for the player (user) and reads necessary image data in response to a command from the general control section 770 and performs image processing as required and provides an image for the projection section 720.

[0079] The position detection section 760 receives the image data of the rear of the image forming section 710 from the image pickup section 750 and performs necessary image processing for the image data, thereby detecting the position of the shadow PS of the pointing section P and outputting the detected position as position information. The image processing includes threshold value processing to extract the region of the shadow PS, edge detection to extract the contours of the shadow PS, etc. The position detection section 760 generates the position information of the shadow PS using the coordinate position information of the pixels of the shadow region and the contour lines provided by performing the threshold value processing and the edge detection.

[0080] The general control section 770 has a function of controlling the whole operation of the gaming machine 100 and instructs the video control section 730 to output which image data at what timing, etc., and sends a command for changing the image data to the video control section 730 in response to the position information of the shadow PS from the position detection section 760.

[0081] FIG. 8 is an external perspective view of the gaming machine 100 having the basic configuration shown in FIG. 7. In the example, the gaming machine 100 is described as an apparatus for allowing the player to play a blackjack game, but the gaming machine according to the invention is not limited to the blackjack game and may be applied to any game if the invention can be applied to the game, such as poker, baccarat, bridge, Japanese playing cards, or mah-jongg.

[0082] The gaming machine 100 in the example has a table section 801 and a front display 802 placed in the rear of the table section 801.

[0083] The table section 801 stores an optical system and information processing machines making up the gaming machine 100. An opening is made in the center of the top of the table section 801, and a translucent screen 803 of the image forming section 710 is put on the opening. The translucent screen 803 functions as a top display (which will be hereinafter referred to as "table screen 805") corresponding to the image display section 740 for displaying a game image for the user. The top of the translucent screen 803 is protected by a transparent plate member such as a glass panel so as to prevent the translucent screen 803 from being broken or becoming dirty if the player touches the table screen 805.

[0084] Fluorescent lamps 804A and 804B corresponding to the light source LS are provided at both ends of the top of the front display 802 so as to project the shadow PS of the pointing section P onto the translucent screen 803. The placement positions of the fluorescent lamps 804A and 804B need not necessarily be those shown in FIG. 8 and the fluorescent lamps 804A and 804B may be installed at any positions if they are placed so as to project the shadow PS of the pointing section P onto the translucent screen 803. If such illumination for projecting the shadow PS of the pointing section P onto the translucent screen 803 is provided at the place where the gaming machine 100 is installed, the fluorescent lamps 804A

and 804B need not be provided.

[0085] FIG. 9 is a drawing to show a placement example of the optical system stored in the table section 801.

[0086] The translucent screen 803 is fixed in the center of the table section 801 in a state in which it is protected by a glass plate, etc. A mirror 901 is installed in an inclined state below the translucent screen 803. A digital liquid crystal projector (DLP) 902 corresponding to the projection section 720 and a digital video camera (DVC) 903 corresponding to the image pickup section 750 are fixed at the positions opposed to the mirror 901. The distance of the mirror 901 from the DLP 902 and the reflecting face angle of the mirror 901 are adjusted so as to reflect an image projected from the DLP 902 toward the translucent screen 803 for displaying the image in any desired size. Likewise, the distance of the mirror 901 from the DVC 903 and the reflecting face angle of the mirror 901 relative to the translucent screen 803/DVC 903 are adjusted so as to reflect the rear image of the translucent screen 803 toward the digital video camera 903 and enable the DVC 903 to pick up the image of the rear of the translucent screen 803.

[0087] Next, an electric configuration example of the gaming machine shown in FIGS. 8 and 9 will be discussed. FIG. 10 is a block diagram to show an electric configuration example of the gaming machine 100.

[0088] As shown in FIG. 10, the gaming machine 100 is provided with the translucent screen 803. The DLP 902 of the projection section 720 optically projects a game image onto the translucent screen 803. A screen control section 1001 of the video control section 730 supplies image data, which will be hereinafter referred to as "front image data, " to the DLP 902. The DVC 903 of the image pickup section 750 picks up the image of the rear of the translucent screen 803 and outputs image data provided by picking up the image of the rear of the translucent screen 803, which will be hereinafter referred to as "rear image data." A pointed position detection section 1003 of the position detection section 760 processes the rear image data, thereby detecting the position pointed to by the pointing section P and outputting position information. A game control section 1002 of the general control section 770 has a function of controlling the operation of the gaming machine 100; it instructs the screen control section 1001 to output which image data at what timing, etc., receives the position information from the pointed position detection section 1003, and executes game progress processing based on the position information.

[0089] A front display control section 1004 outputs image data of the image to be displayed on the front display 802, which will be hereinafter referred to as "front display image data, " in response to the command from the game control section 1002. The front display 802 receives and displays the front display image data. The image displayed on the front display 802 informs the user of the game situation, the game progress state, etc., together with the image displayed on the translucent screen 803.

[0090] In the example, a dealer of blackjack is displayed on the front display 802 as a moving image. FIG. 11 shows a screen example displayed on the front display 802. A dealer 1101 is displayed on the screen; the card dealing, card drawing, and chip delivering operation is displayed on the screen with the progress of a game for producing the effect as if the player played a blackjack game with the actual dealer.

[0091] A plurality of player terminal sections 1005_1 to 1005_N are connected to the game control section 1002. Each player terminal section 1005 is a terminal having a billvali function of receiving a coin, a bill, a prepaid card, a credit card, etc., from a player and enabling it to be handled as credit (medal/coin) used with the gaming machine 100 and paying out the credit (medal/coin) owned by the player at the point in time in response to a payout command from the player and a bet input function of determining the number of medals/coins, the amount, or the credit count of the bet on each game. The player uses the player terminal section 1005 and the pointing section P to make entries for advancing the game.

Game contents, game screen, etc.

[0092] Next, the contents of a game executed by the gaming machine 100, a game screen, and the like will be discussed.

Main game and subgame

[0093] The gaming machine 100 executes blackjack as the main game and the microcomputer 201 of the gaming machine 100 takes at least a dealer role. The microcomputer 201 of the gaming machine 100 may take charge of some of players.

[0094] The blackjack game of the main game of the gaming machine 100 will be discussed. In the blackjack, each picture card (king (K), queen (Q), jack (J)) is counted as 10 points and an ace (A) is counted as one or 11 points so as to give favorable conditions to the player in response to the situation. Other cards (2 to 9) are counted intact as two to nine.

[0095] when a game is started, the dealer played by the microcomputer 201 of the gaming machine 100 deals two cards to each player with the inside of each card out and deals one with the inside out and one with the outside out to the dealer.

[0096] If the total count of the points of the cards dealt to the dealer is 16 points or less, the dealer must continue to draw any other card. If the number of points of the dealer becomes 17 points or more, the dealer must stand (stop drawing any other card).

[0097] Each player plays the game so that the total count of the points of the cards dealt to the player becomes 21. If the number of points of the dealt cards does not become 21, the player who has the number of points closer to 21 points wins the game.

[0098] However, if the total count of the points of the cards dealt to the player exceeds 21, the player loses

the game ("Bust").

[0099] When the player sees the total number of points of the dealt cards, if the player determines that an additional card is required, the player can "hit" and make a request for dealing an additional card so as to bring the total number of points close to 21 points. On the other hand, if the player determines that it is not necessary to deal an additional card, the player "stands" and plays the game with the dealer based on the cards dealt at the point in time.

[0100] If the player wins the game, the player receives payout of twice the valuable resource bet by the player. On the other hand, if the player loses the game, the valuable resource bet by the player is impounded.

[0101] If the two cards initially dealt to the player are a combination of an ace and a card counted as 10 points, the card combination on hand becomes "blackjack" and the player receives payout of three times the bet chips unless the card combination on hand of the dealer is "blackjack." If the card combination on hand of the player and that of the dealer are both "blackjack," namely, if the game ends in a draw, the bet (bet chip) is returned intact to the player.

[0102] The description of the main rule of blackjack of the main game is now complete.

[0103] Next, a subgame of the gaming machine 100 will be discussed.

[0104] The subgame is a game to form a predetermined card combination (prize) based on the dealt cards (target cards) in blackjack of the main game. The target cards in the subgame are one card initially dealt to the dealer with the inside out and two cards initially dealt to each player (three cards in total). If the three target cards form a predetermined card combination, the player can receive payout at a predetermined multiplying power of the amount bet on the subgame.

[0105] FIG. 12 shows a table example to show combinations in a subgame and multiplying powers. In the example shown in the figure, if the three target cards are all aces, namely, if the card dealt to the dealer is an ace and the two cards dealt to the player are also both aces, the player receives payout of 100 times the bet valuable resource; if the three target cards are the same cards other than aces, the player receives payout of 40 times the bet valuable resource; if two of the three target cards are aces, the player receives payout of eight times the bet valuable resource; if two of the three target cards are the same cards other than aces, the player receives payout of twice the bet valuable resource; and if the dealer's card of the target cards is an ace, the player receives payout of three times the bet valuable resource.

[0106] As the card combinations are formed as prizes in such a manner, in the card dealing situation in which the possibility that the dealer will win the game is high (the possibility that if an ace is dealt to the dealer, the dealer's cards on hand will become blackjack is high), the possibility that the player will win the subgame is provided and consequently it is made possible to avoid the situation in which the player continues to lose games unilaterally.

Progress examples of main game and subgame

[0107] Next, progress examples of main game and subgame in the gaming machine 100 will be discussed with game screen examples shown in the accompanying drawings.

[0108] FIG. 13 shows a screen example displayed on the table screen 805 of the gaming machine 100, a screen example in a state before cards are dealt. The screen is formed with a main bet area 1301 to bet on a main game and a subbet area 1302 to bet on a subgame for each player. The player touches the main bet area 1301 and the subbet area 1302, thereby making an entry of bet into the gaming machine 100. In the example, it is recognized that the coin amount responsive to the number of times the player has touched each of the main bet area 1301 and the subbet area 1302 is bet.

[0109] FIG. 14 is a drawing to show an example of the storage contents of the dealt element storage section 303 in the screen state in FIG. 13. The dealt element storage section 303 previously determines the dealing order of 53 cards used with blackjack of the main game according to a random number and stores the dealing order in a predetermined storage area (card deck storage area 1401). The card deck storage area 1401 has records 1402_1 (first record) to 1402_{53} (53rd record) and each record has a card ID field 1403 for identifying the card and a deal flag field 1404 indicating whether or not the card has already been dealt.

[0110] The card ID field 1403 stores the card ID of information indicating the card type and numeral. In the example shown in the figure, the card ID is provided by suffixing two digits representing the numeral of the card to spade = S, club = C, heart = H, diamond = D. For example, "S11" represents 11 of spades, namely, a card of the jack of spades and "H04" represents a card of 4 of hearts.

[0111] If the card indicated on the record is not yet dealt, "0" is written into the deal flag field 1404. When the card indicated on the record is dealt, "0" is replaced with "1."

[0112] The main game control section 301 determines the storage contents of the card deck storage area 1401 according to a random number, etc., before a game is started, and stores the determined card ID in the card ID field 1403 of each record for storage in the dealt element storage section 303.

[0113] The dealt element storage section 303 further has a dealer card storage area 1405. The dealer card storage area 1405 is an area to store the cards dealt to the dealer and has a hole card record 1406_1 and an up card record 1406_2. Each of the records 1406_1 and 1406_2 has a card ID field 1407 for identifying the card dealt to the dealer, and the card ID field 1407 stores the card ID of information indicating the card type and numeral.

[0114] The dealt element storage section 303 further has a player card storage area 1408. Only one player card storage area 1408 is shown in the figure; in fact, one player card storage area 1408 is provided for each player.

[0115] The player card storage area 1408 is an area to store the cards dealt to the player and has a plurality of card records 1409_1, 1409_2, Each record has a card TD field 1410 for storing the card ID identifying the card, and the card ID field 1410 stores the card ID of information indicating the type and numeral of the card dealt to the player.

[0116] In the example shown in FIG. 14, cards are dealt to neither the dealer nor the player and thus a character string of "ZZZ" indicating that no card is dealt is written into the card ID field 1407 of the dealer card storage area 1405 and the card ID field 1410 of the player card storage area 1408.

[0117] Now, it is assumed that the player bets on the main game and the subgame from the state in FIG. 13 and the game proceeds. FIG. 15 shows a screen display example displayed on the table screen 805 when the main game control section 301 initially deals a hole card to the dealer after the state in FIG. 13. In the screen example, an image 1501 of the hole card with the outside out is displayed, and the player does not see what is the card.

[0118] FIG. 16 is a drawing to show an example of the storage contents of the dealt element storage section 303 in the game progress state in FIG. 15. "1" indicating that the card has already been dealt is rewritten into the deal flag field 1404 of the first record 1402_1 of the card deck storage area 1401, and "S11" contained in the card TD field 1403 of the first record 1402_1 of the card deck storage area 1401 is copied into the hole card record 1406_1 of the dealer card storage area 1405.

[0119] It is assumed that the game further proceeds from the game progress state in FIG. 15 and a first card is dealt to the player. FIG. 17 shows a screen display example displayed on the table screen 805 when the main game control section 301 deals the first card to the player after the state in FIG. 15. In the screen example, a new image of first card 1701 (8 of hearts) of the player with the inside out is displayed.

[0120] FIG. 18 is a drawing to show an example of the storage contents of the dealt element storage section 303 in the game progress state in FIG. 17. "1" indicating that the card has already been dealt is rewritten into the deal flag field 1404 of the second record 1402_2 of the card deck storage area 1401, and "H08" contained in the card ID field 1403 of the second record 1402_2 of the card deck storage area 1401 is copied into the first record 1409_1 of the player card storage area 1408.

[0121] Subsequently, it is assumed that the game proceeds from the state in FIG. 17 and an up card is dealt to the dealer. FIG. 19 shows a screen display example displayed on the table screen 805 when the main game control section 301 deals the up card to the dealer after the state in FIG. 17. In the screen example, a new image of up card 1901 (ace of diamonds) with the inside out is displayed.

[0122] FIG. 20 is a drawing to show an example of the storage contents of the dealt element storage section 303 in the game progress state shown in FIG. 19. The following are rewritten into the dealt element storage section 303: "1" indicating that the card has already been dealt is rewritten into the deal flag field 1404 of the third record 1402_3 of the card deck storage area 1401, and "D01" contained in the card ID field 1403 of the third record 1402_3 of the card deck storage area 1401 is copied into the up card record 1406_2 of the dealer card storage area 1405.

[0123] Subsequently, it is assumed that the game proceeds from the state in FIG. 19 and a second card is dealt to the player. FIG. 21 shows a screen display example displayed on the table screen 805 when the main game control section 301 deals the second card to the player after the state in FIG. 19. In the screen example, a new image of second card 2101 (ace of clubs) of the player with the inside out is displayed.

[0124] FIG. 22 is a drawing to show an example of the storage contents of the dealt element storage section 303 in the screen state in FIG. 21. "1" indicating that the card has already been dealt is rewritten into the deal flag field 1404 of the fourth record 1402_4 of the card deck storage area 1401, and "C01" contained in the card ID field 1403 of the fourth record 1402_4 of the card deck storage area 1401 is copied into the second record 1409_2 of the player card storage area 1408.

[0125] The subgame control section 302 monitors the storage contents of the dealt element storage section 303 and determines whether or not a win or loss determination condition of the subgame is met (S601 in FIG. 6). In the storage contents of the dealt element storage section 303 shown in FIG. 21, the subgame control section 302 determines that a win or loss determination condition of the subgame is met, and determines the gained valuable resource of the player (S602 in FIG. 6). In the example, in the combinations shown in FIG. 12, the combination of two aces contained in the target cards (eight times) and the combination in which the up card of the dealer is an ace (three times) are complete and therefore the subgame control section 302 determines payout of eight times plus three times the valuable resource bet on the subgame by the player to the player.

[0126] Subsequently, it is assumed that the game proceeds from the state in FIG. 21 and that the player declares "Stand" without requesting any new card and the main game is over. FIG. 23 shows a screen display example displayed on the table screen 805 when the main game control section 301 terminates the game after the state in FIG. 21. In the screen example, the hole card 1501 of the dealer is displayed with the inside out, namely, is displayed as jack of clubs. This image makes the player know that he or she loses the main game, blackjack.

[0127] The storage contents of the dealt element storage section 303 in the screen state in FIG. 23 do not change from the storage contents shown in FIG. 22.

[0128] In the game situation shown in FIG. 23, the main game control section 301 determines that the win or loss determination condition of the main game is met from the storage contents of the dealt element storage section 303 and the declaration of the player (S502 in FIG. 5), and performs the win or loss and gained valuable resource determination processing (S503 in FIG. 5). In the example, the main game control section 301 determines as follows: Although the card combination on hand of the dealer forms "blackjack," the card combination on hand of the player is 18 points and therefore the player loses the main game and loses the valuable resource bet on the main game and has no gained valuable resource.

[0129] That is, in the game progress examples shown in FIGS. 13 to 23, the advantageous card (ace of diamonds) is dealt to the dealer and thus the player loses the main game; in the subgame, however, as the advantageous card is dealt to the dealer, an advantageous combination for the player results, so that the player wins the subgame.

[0130] Such a subgame is played in parallel with the main game, whereby if the card combination on hand of the player's opponent becomes advantageous in the game development, a one-sided lost game of the player can be avoided and it is made possible to prevent the player from having the fight taken out of the player of the game.

[0131] In the description given above, one player uses the gaming machine to play a game. However, the gaming machine 100 also enables a plurality of players to play a game at the same time. FIG. 24 shows a screen example when four players join a main game and a subgame at the same time. In the screen example, the main game control section 301 and the subgame control section 302 perform the win or loss and gained valuable resource determination processing of the main game and the subgame (S503 and S602) for each of the players.

Claims

1. A gaming machine for executing a subgame in parallel with a main game, the gaming machine comprising:

   a main game control means for dealing a plurality nf elements and determining the result of the main game in response to the dealt plurality of elements;
   a dealt element storage means for storing the plurality of elements dealt by the main game control means; and
   a subgame control means for determining the result of the subgame based on the dealt plurality of elements stored in the dealt element storage means.

2. The gaming machine according to claim 1, wherein:

   the main game is a game that a dealer and one or more players play the game each other; and the subgame control means determines the result of the subgame based on an element combination containing at least one element dealt to the dealer.

3. The gaming machine according to claim 1, wherein:

   the plurality of elements are a plurality of cards; and
   the main game is blackjack and the subgame control means determines the result of the subgame based on a combination of plurality of cards containing an open card dealt to the dealer and at least one card dealt to each player.

4. The gaming machine according to claim 3, wherein the subgame control means stores a plurality of combinations of the plurality of cards, and the value to be paid out if the combination of the plurality of cards is complete, and is set so that the value of valuable resource to be paid out more increases as the plurality of cards contain a card for making a stronger card combination of the dealer.

5. A game control method comprising:

   dealing a plurality of elements in a main game;
   determining the result of the main game in response to the plurality of elements determined in the dealing; and
   determining the result of the subgame in response to the plurality of elements determined in the dealing.

6. The game control method according to claim 5, wherein:

   the main game is a game that a dealer and one or more players play the game each other; and in the determination of the result of the subgame, the result of the subgame is determined based on an element combination containing at least one element dealt to the dealer.

7. The game control method according to claim 5, wherein:

   the plurality of elements are a plurality of cards; and
   the main game is blackjack and the determination of the result of the subgame, the result of the subgame is determined based on a combi-

nation of plurality of cards containing an open card dealt to the dealer and at least one card dealt to each player.

8. The game control method according to claim 7, further comprising
previously storing a plurality of combinations of the plurality of cards, and the value to be paid out if the combination of the plurality of cards is complete, wherein
in the determination of the result of the subgame, setting is made so that the value of valuable resource to be paid out to the player winning the game more increases as the plurality of cards contain a card for making a stronger card combination of the dealer.

9. A computer-readable program product for causing a computer to execute:

dealing a plurality of elements in a main game;
determining the result of the main game in response to the plurality of elements determined in the dealing; and
determining the result of the subgame in response to the plurality of elements determined in the dealing.

10. An automatic game performing method executed in a computer comprising the steps of:

dealing a plurality of elements in a main game;
determining the result of the main game in response to the plurality of elements determined in the dealing; and
determining the result of the subgame in response to the plurality of elements determined in the dealing.

FIG. 1

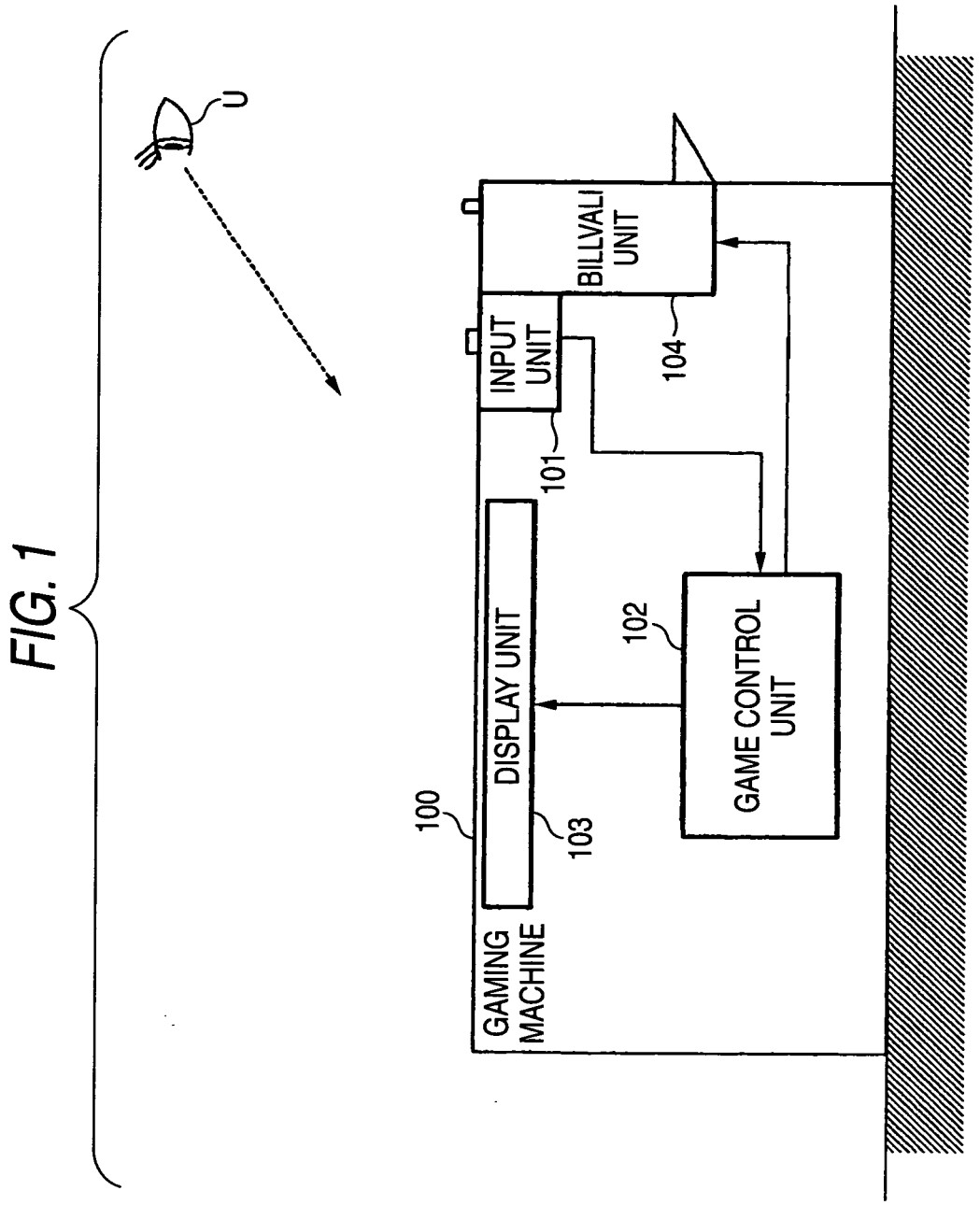

U
BILLVALI UNIT
INPUT UNIT
104
101
DISPLAY UNIT
102
GAME CONTROL UNIT
100
103
GAMING MACHINE

FIG. 2

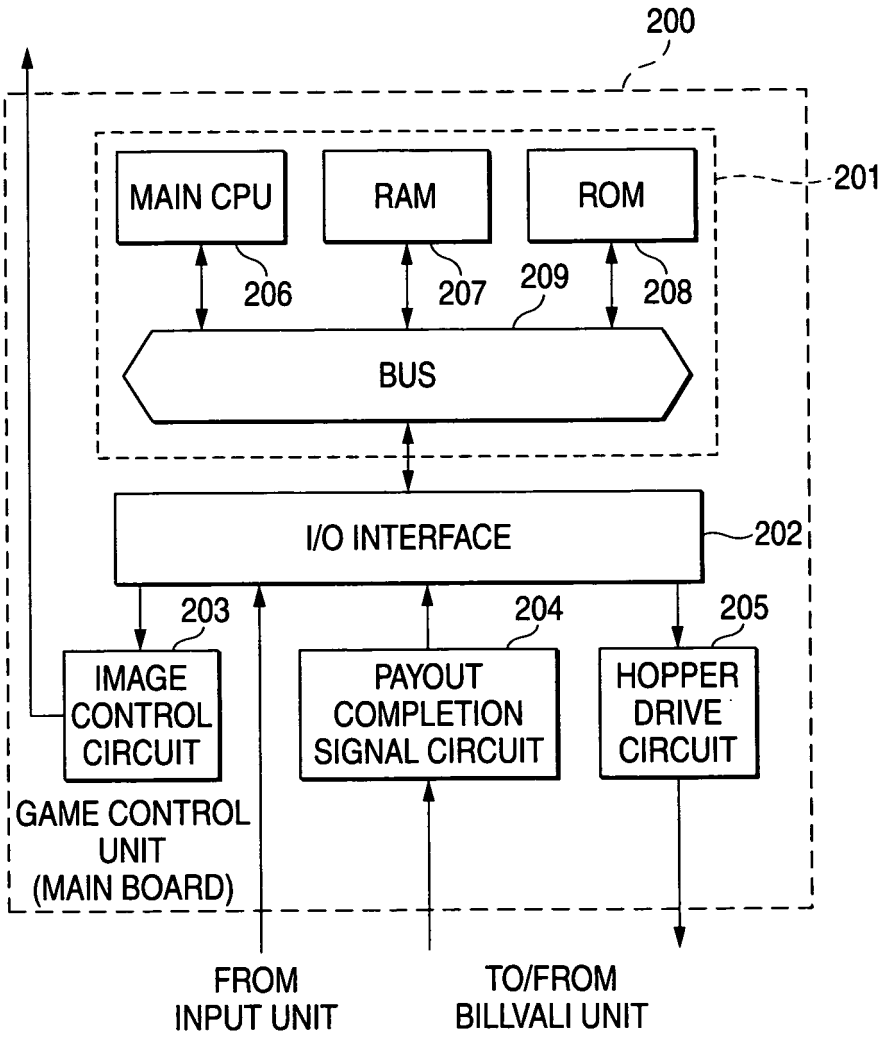

200
201
MAIN CPU
RAM
ROM
206
207
209
208
BUS
I/O INTERFACE
202
203
204
205
IMAGE CONTROL CIRCUIT
PAYOUT COMPLETION SIGNAL CIRCUIT
HOPPER DRIVE CIRCUIT
GAME CONTROL UNIT (MAIN BOARD)
FROM INPUT UNIT
TO/FROM BILLVALI UNIT

FIG. 3

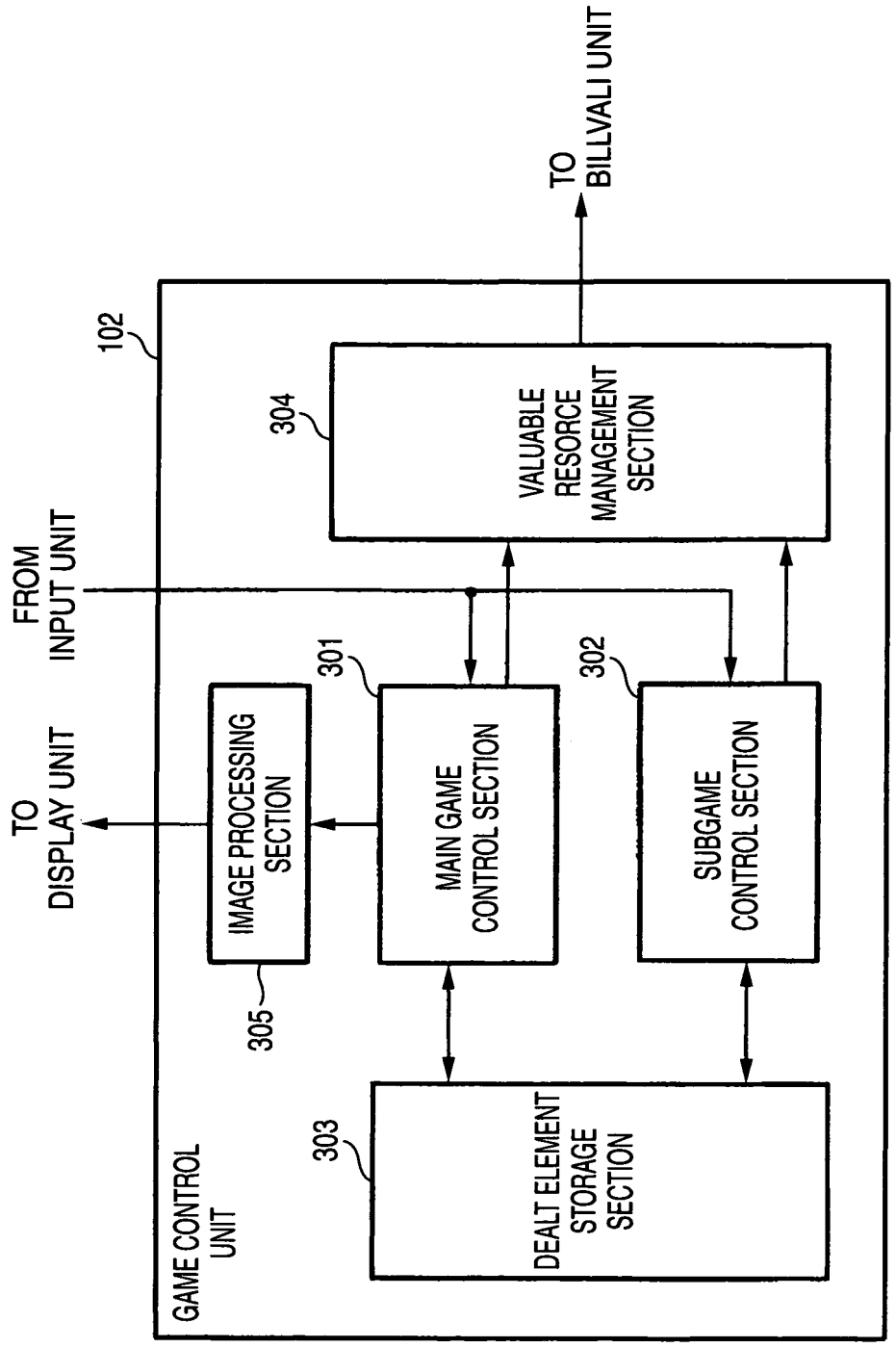

TO BILLVALI UNIT
102
304
VALUABLE RESORCE MANAGEMENT SECTION
FROM INPUT UNIT
301
302
TO DISPLAY UNIT
IMAGE PROCESSING SECTION
MAIN GAME CONTROL SECTION
SUBGAME CONTROL SECTION
305
303
DEALT ELEMENT STORAGE SECTION
GAME CONTROL UNIT

FIG. 4

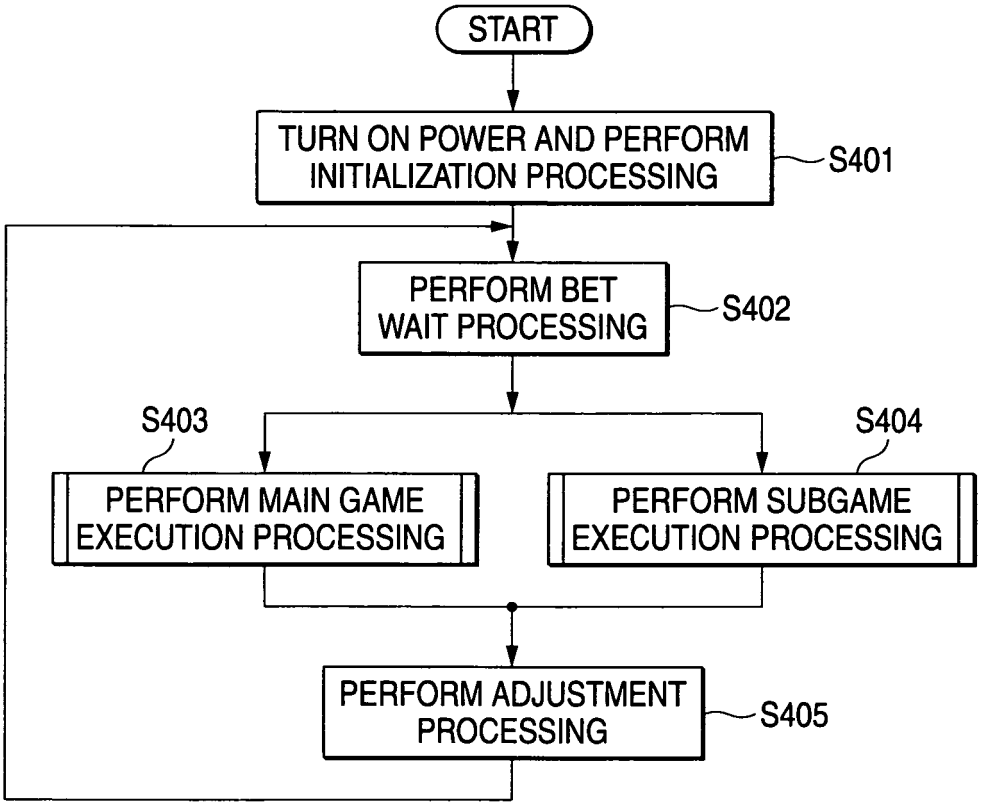

START
TURN ON POWER AND PERFORM INITIALIZATION PROCESSING
S401
PERFORM BET WAIT PROCESSING
S402
S403
S404
PERFORM MAIN GAME EXECUTION PROCESSING
PERFORM SUBGAME EXECUTION PROCESSING
PERFORM ADJUSTMENT PROCESSING
S405

FIG. 5

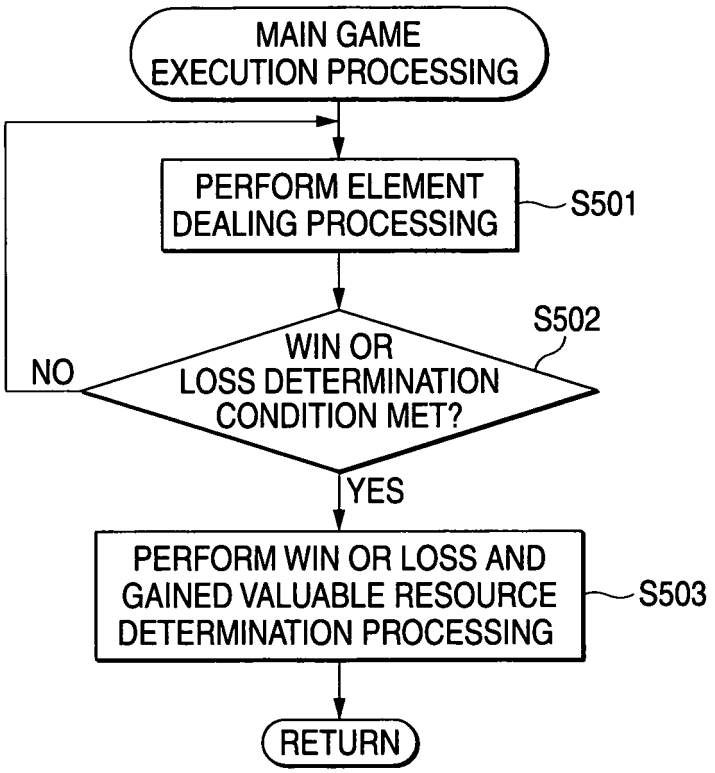

MAIN GAME EXECUTION PROCESSING
PERFORM ELEMENT DEALING PROCESSING
S501
S502
WIN OR LOSS DETERMINATION CONDITION MET?
NO
YES
PERFORM WIN OR LOSS AND GAINED VALUABLE RESOURCE DETERMINATION PROCESSING
S503
RETURN

FIG. 6

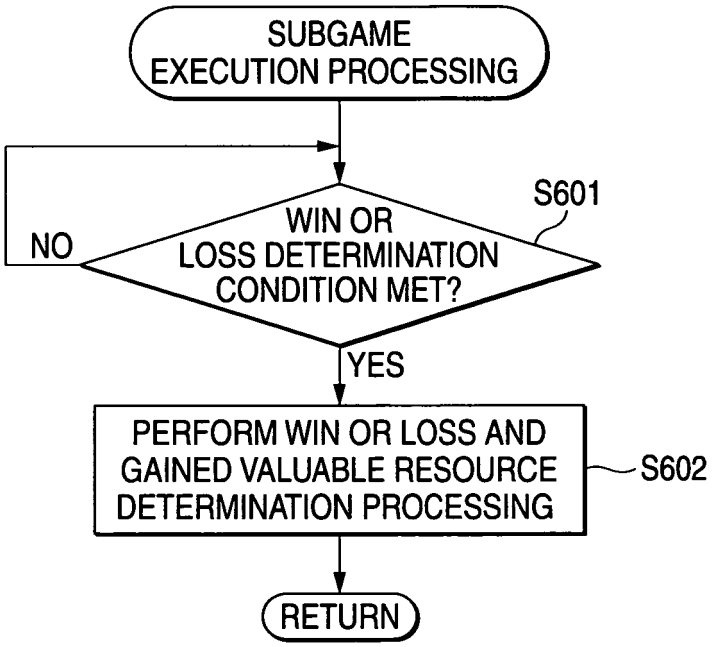

SUBGAME EXECUTION PROCESSING
S601
WIN OR LOSS DETERMINATION CONDITION MET?
NO
YES
PERFORM WIN OR LOSS AND GAINED VALUABLE RESOURCE DETERMINATION PROCESSING
S602
RETURN

FIG. 7

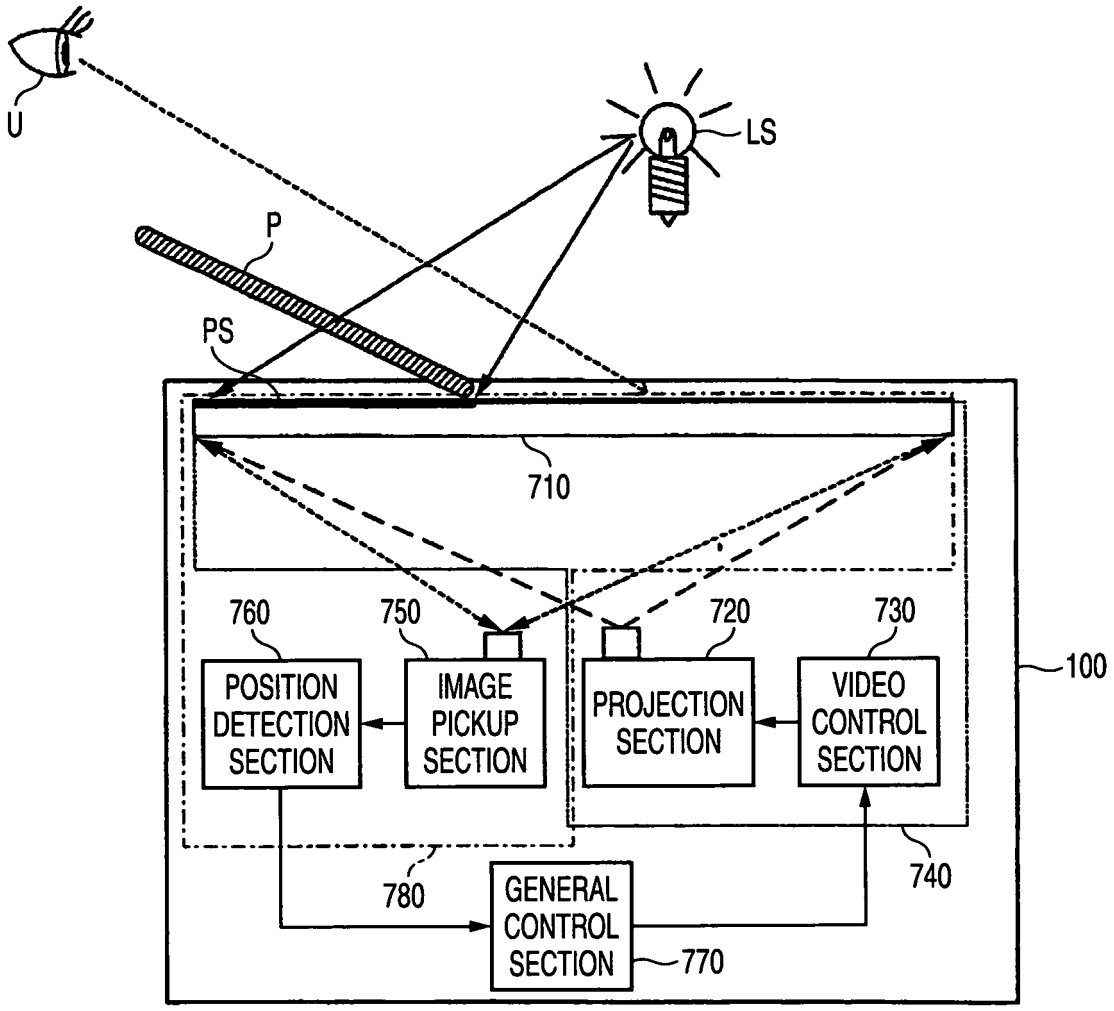

U
LS
P
PS
710
760
750
720
730
POSITION DETECTION SECTION
IMAGE PICKUP SECTION
PROJECTION SECTION
VIDEO CONTROL SECTION
100
780
740
GENERAL CONTROL SECTION
770

FIG. 8

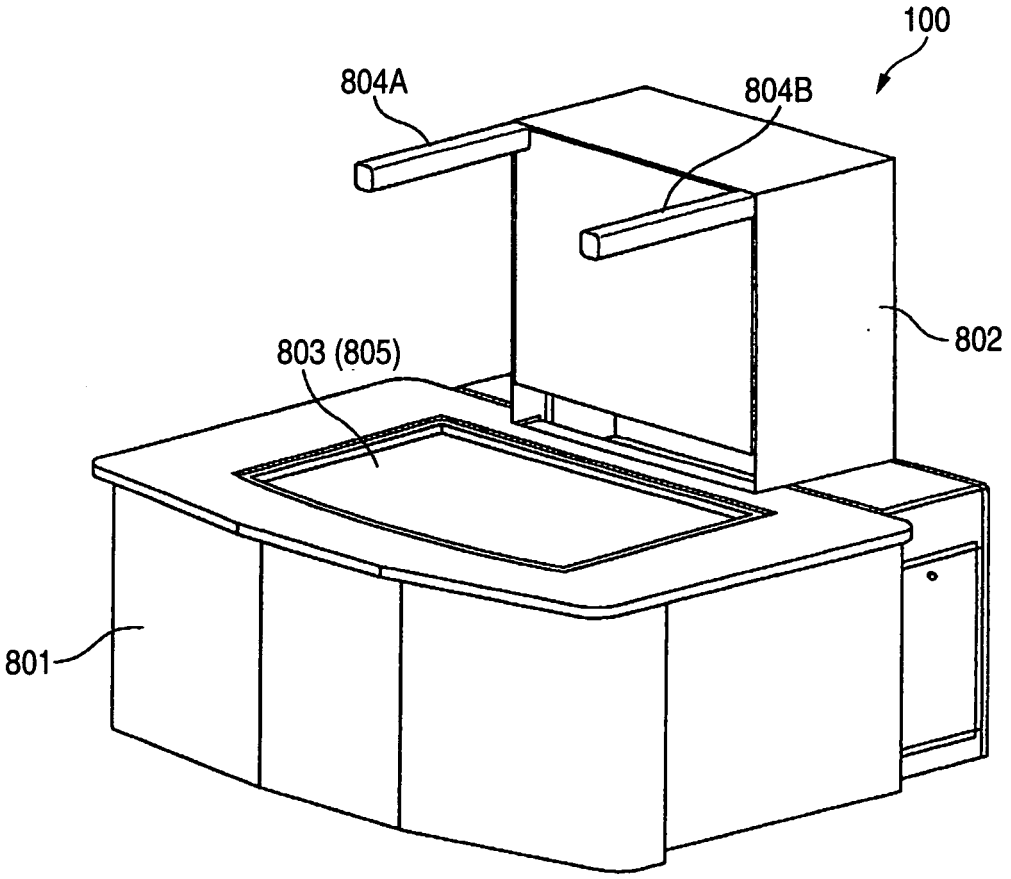


FIG. 9

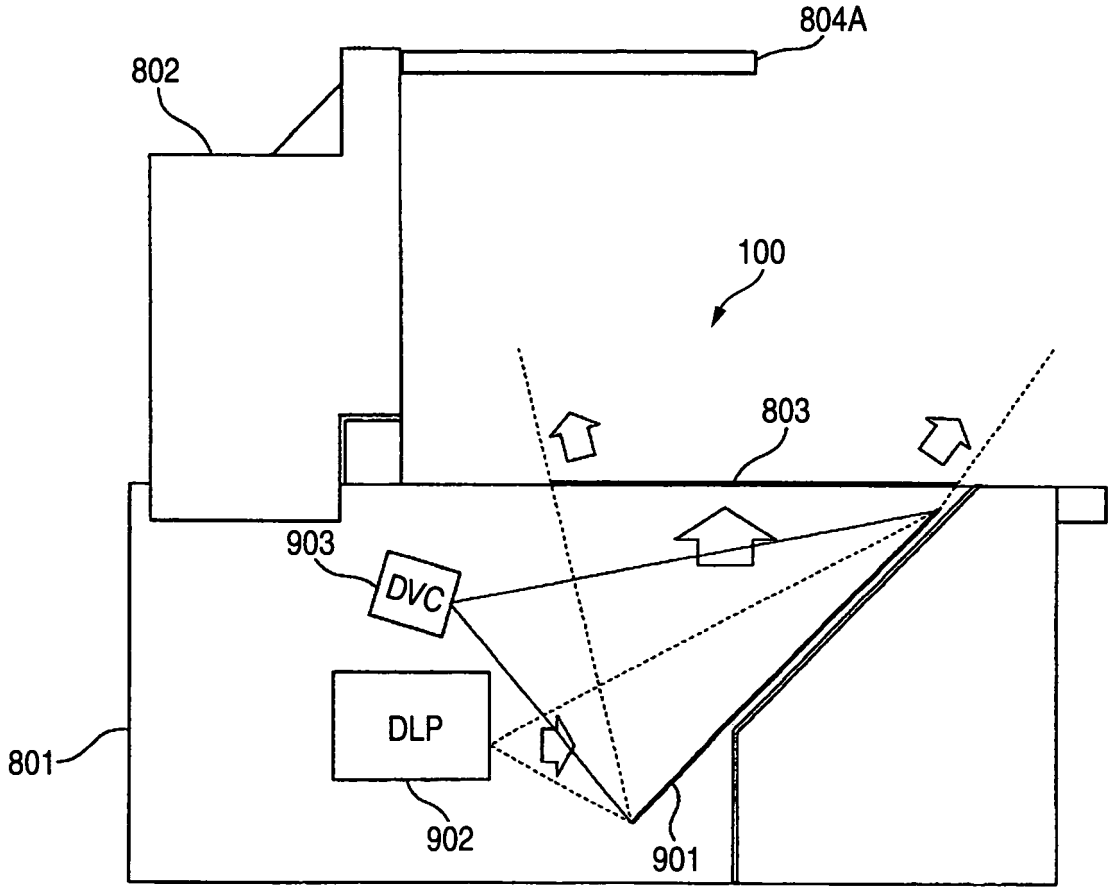


FIG. 10

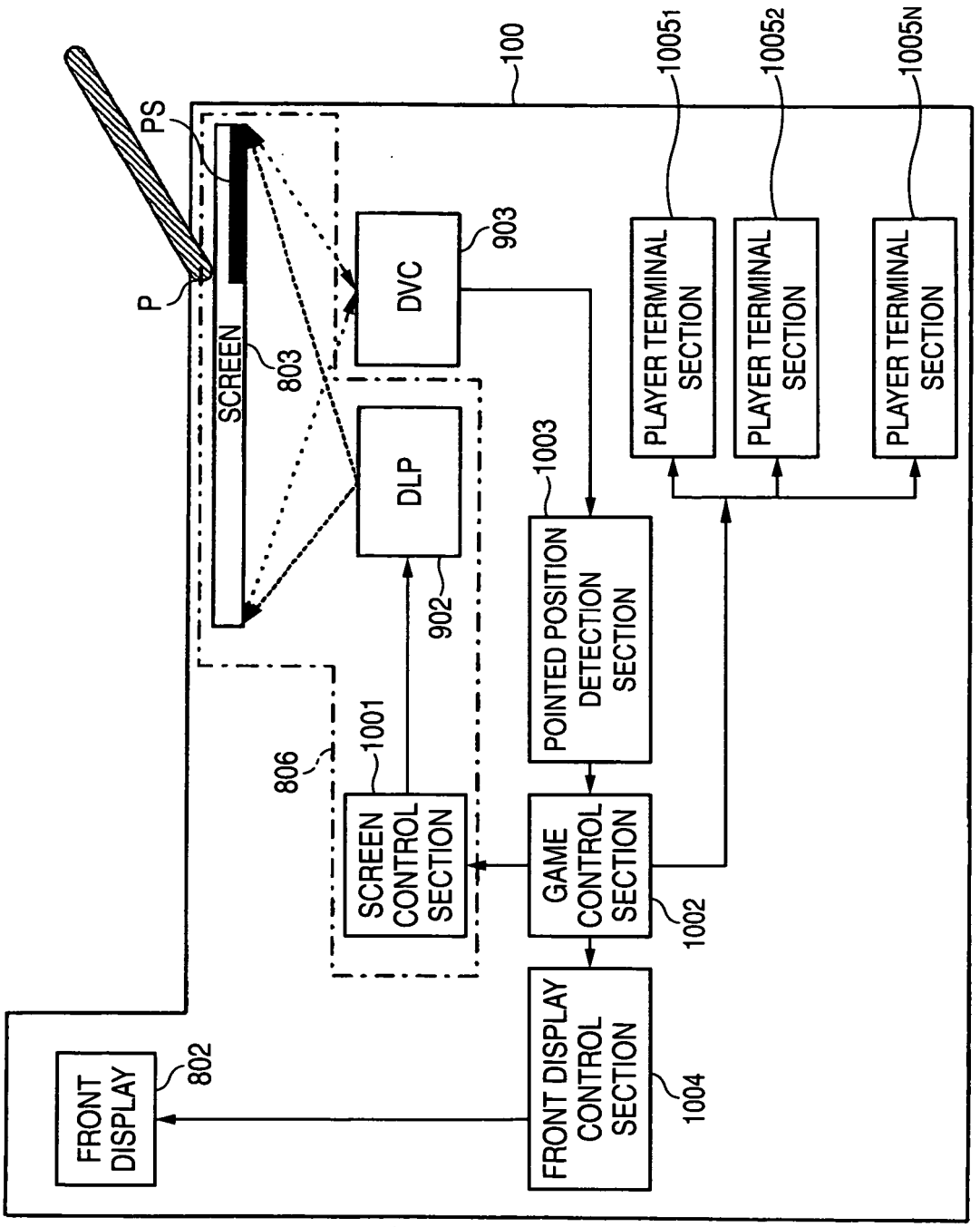

100
PS
P
SCREEN
803
DVC
903
DLP
902
1003
POINTED POSITION DETECTION SECTION
1001
806
SCREEN CONTROL SECTION
GAME CONTROL SECTION
1002
FRONT DISPLAY CONTROL SECTION
1004
FRONT DISPLAY
802
PLAYER TERMINAL SECTION
PLAYER TERMINAL SECTION
PLAYER TERMINAL SECTION
1005N
10052
10051

FIG. 11

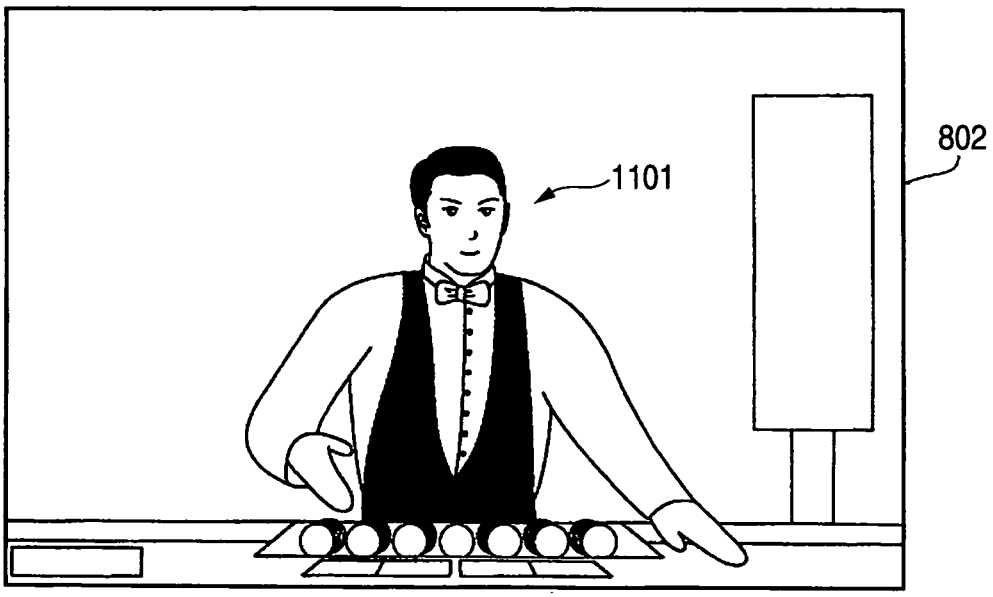


FIG. 12

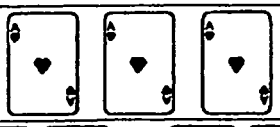
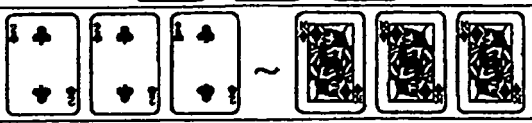
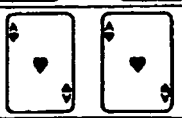
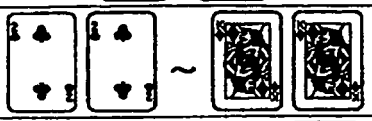
COMB	ODDS
	x 100
	x 40
	x 8
	x 2
DEALER	x 3

FIG. 13

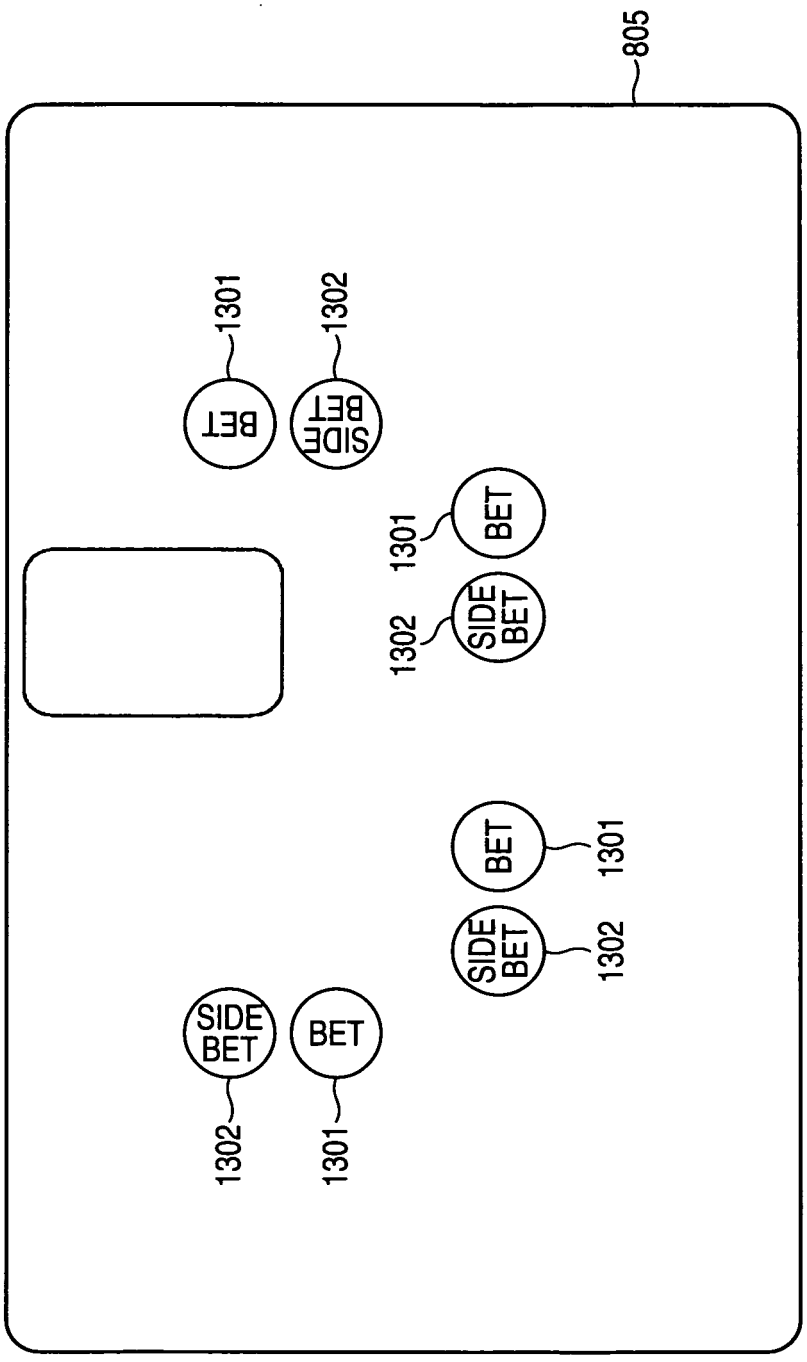

805
1301
1302
BET
SIDE BET
1301
1302
BET
SIDE BET
BET
1301
SIDE BET
1302
SIDE BET
BET
1302
1301

FIG. 14

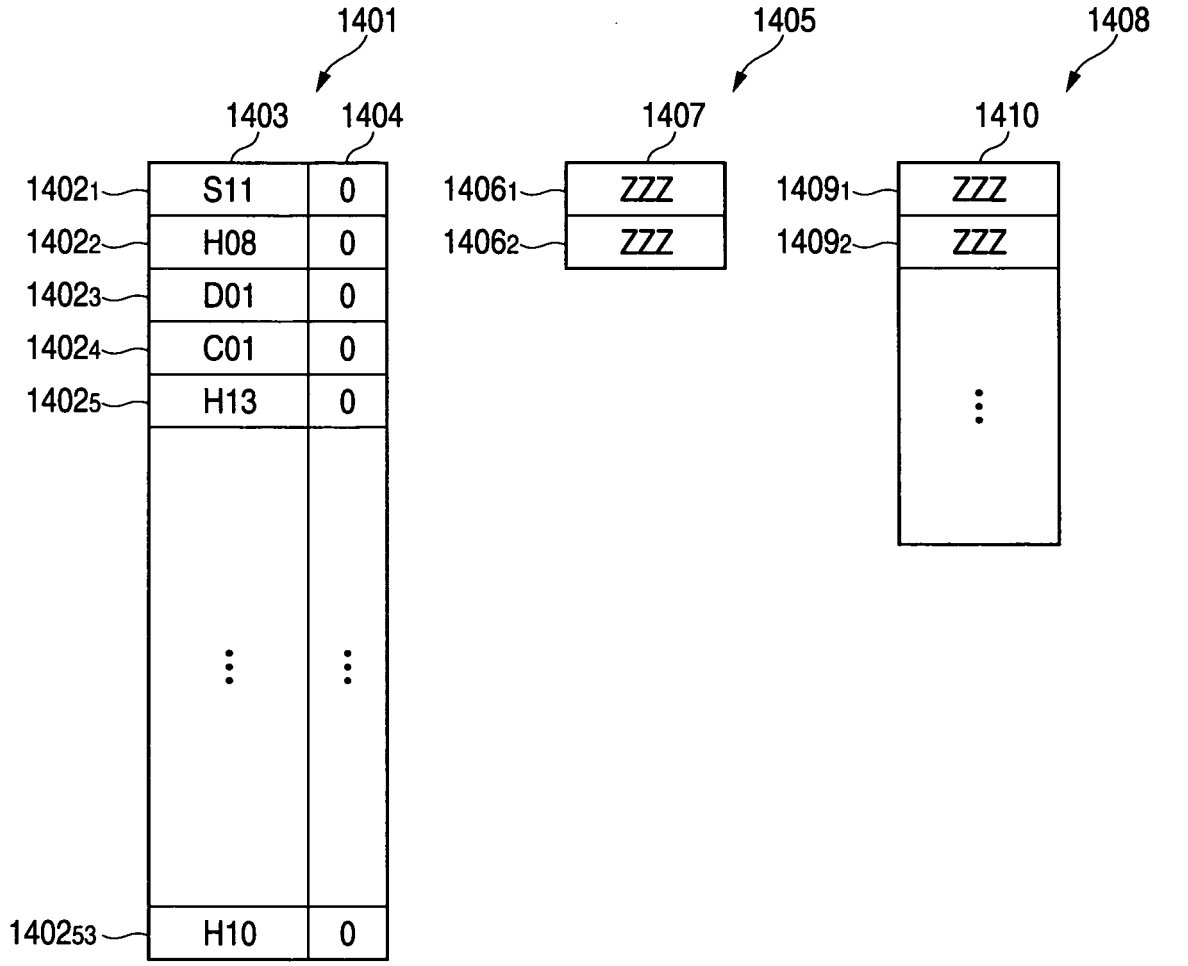

1401
1405
1408
1403
1404
1407
1410
14021
S11
0
14022
H08
0
14023
D01
0
14024
C01
0
14025
H13
0
140253
H10
0
14061
ZZZ
14062
ZZZ
14091
ZZZ
14092
ZZZ

FIG. 15

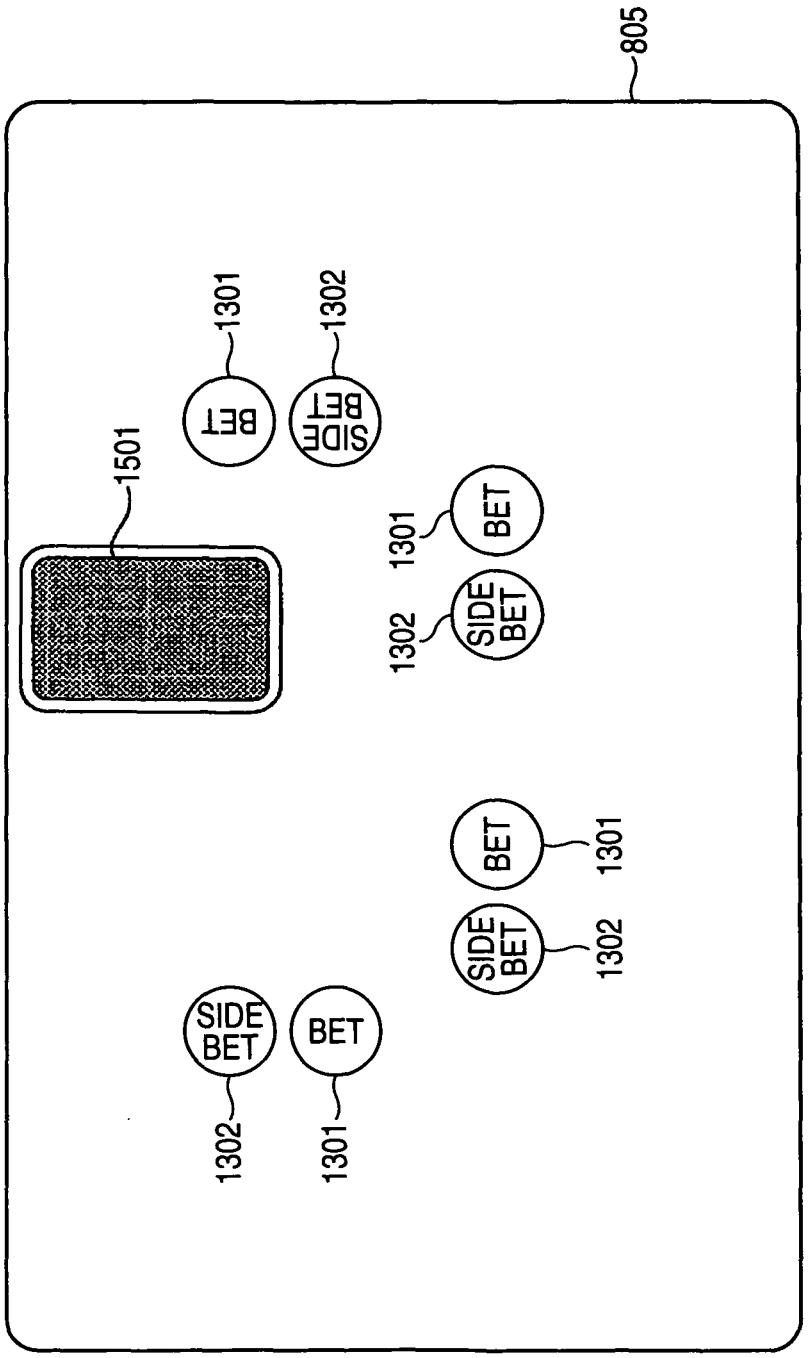

805
1501
1301
BET
1302
SIDE BET
1301
BET
1302
SIDE BET
BET
1301
SIDE BET
1302
SIDE BET
1302
BET
1301

FIG. 16

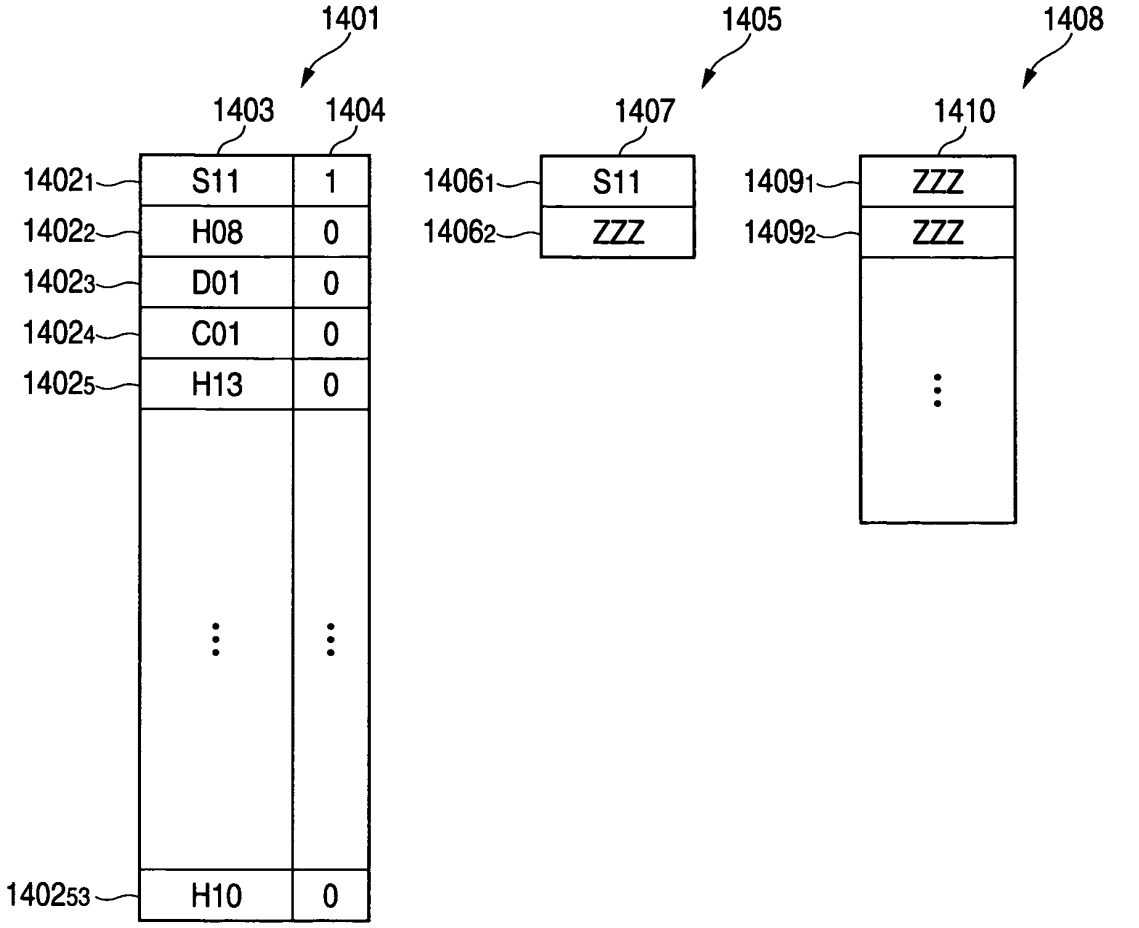

1401
1403
1404
14021
S11
1
14022
H08
0
14023
D01
0
14024
C01
0
14025
H13
0
140253
H10
0
1405
1407
14061
S11
14062
ZZZ
1408
1410
14091
ZZZ
14092
ZZZ

FIG. 17

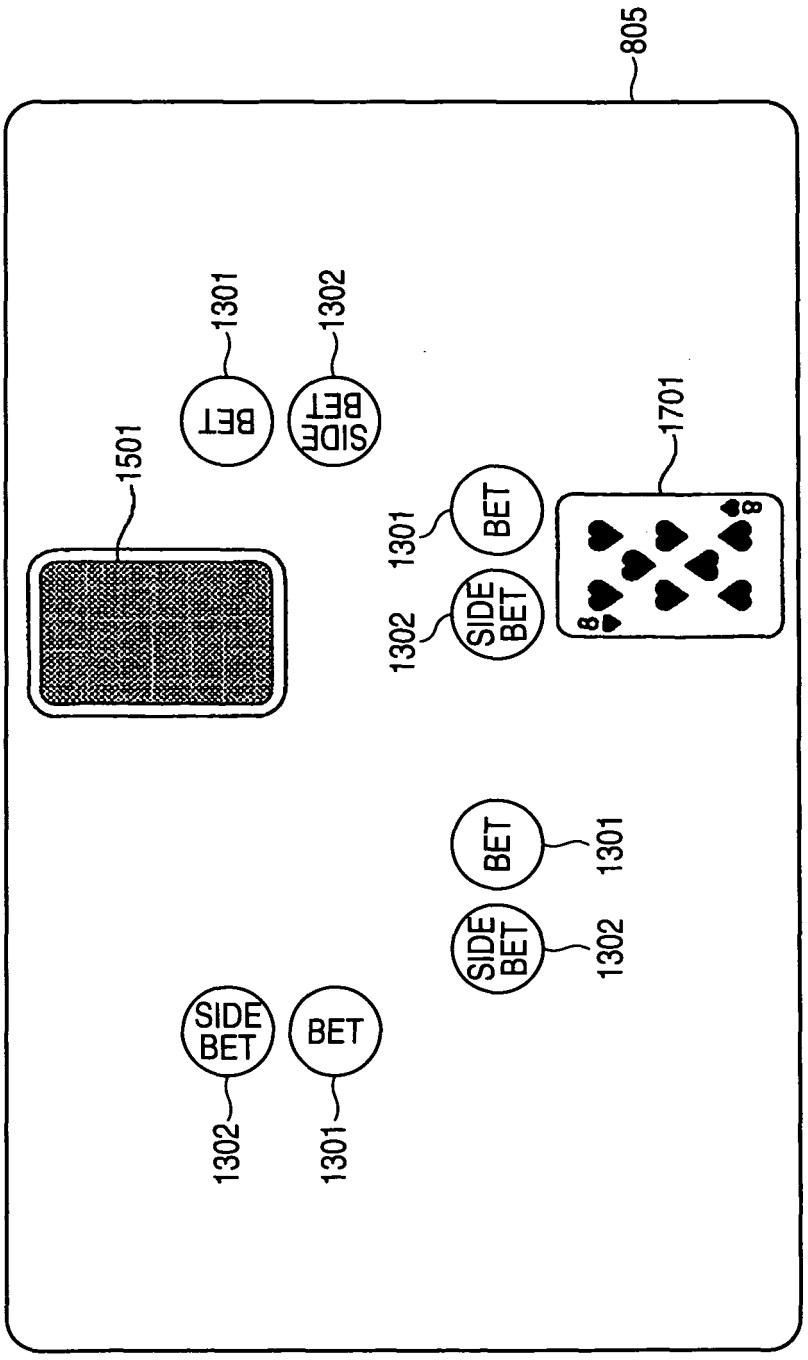

805
1501
1301
BET
1302
SIDE BET
1701
1301
BET
1302
SIDE BET
1301
BET
1302
SIDE BET
1302
SIDE BET
1301
BET

FIG. 18

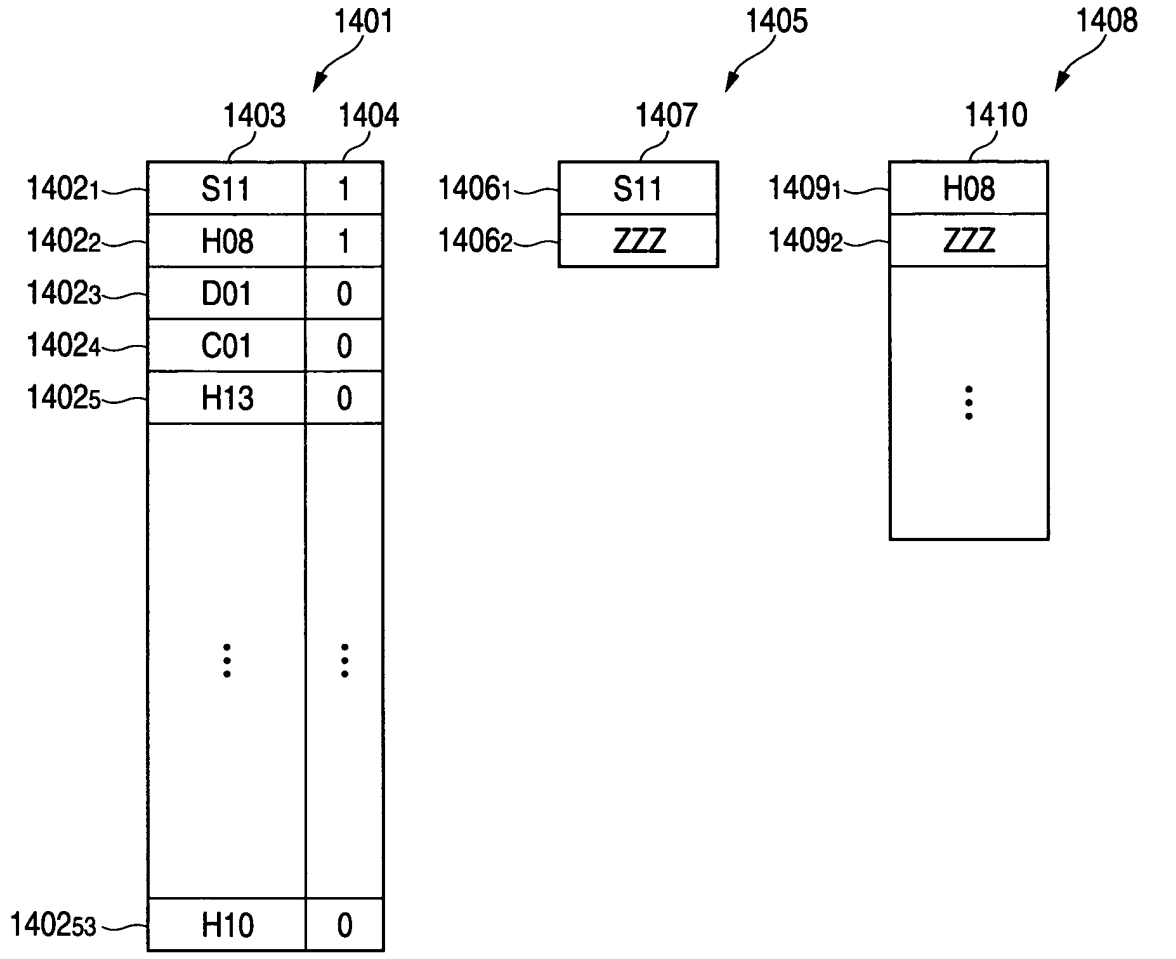

1401
1405
1408
1403
1404
1407
1410
14021
S11
1
14022
H08
1
14023
D01
0
14024
C01
0
14025
H13
0
140253
H10
0
14061
S11
14062
ZZZ
14091
H08
14092
ZZZ

FIG. 19

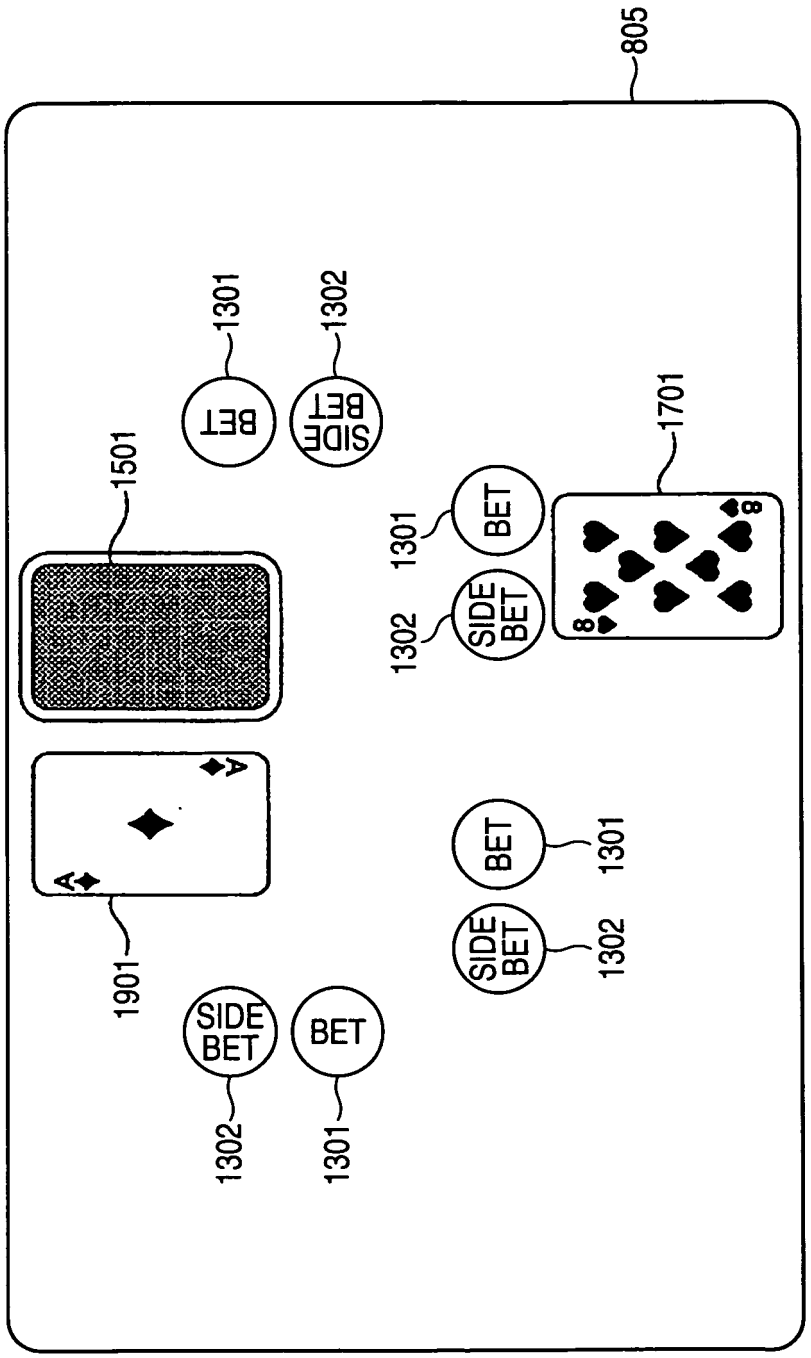

805
1301
BET
1302
SIDE BET
1501
1701
1301
BET
1302
SIDE BET
1901
SIDE BET
1302
BET
1301
SIDE BET
1302
BET
1301

FIG. 20

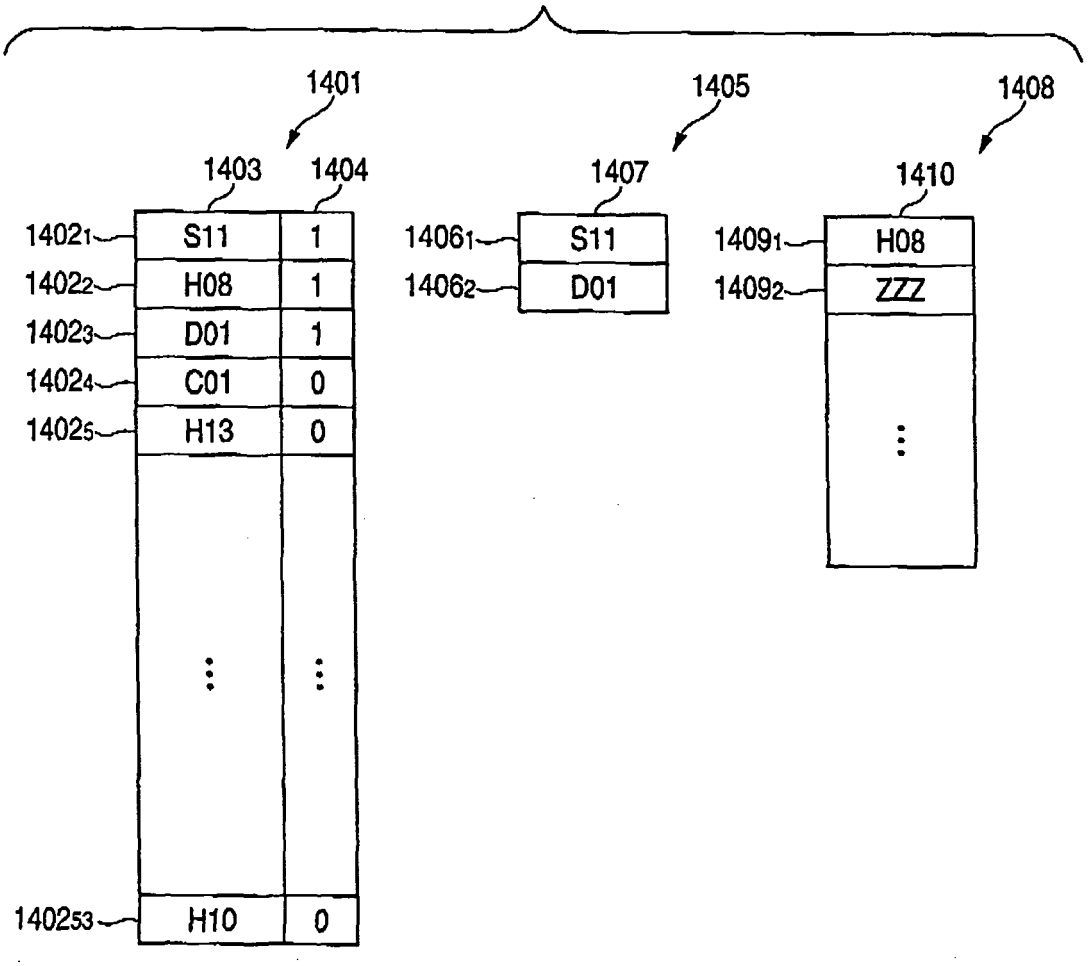

1401
1405
1408
1403
1404
1407
1410
14021 S11 1
14022 H08 1
14023 D01 1
14024 C01 0
14025 H13 0
140253 H10 0
14061 S11
14062 D01
14091 H08
14092 ZZZ

FIG. 21

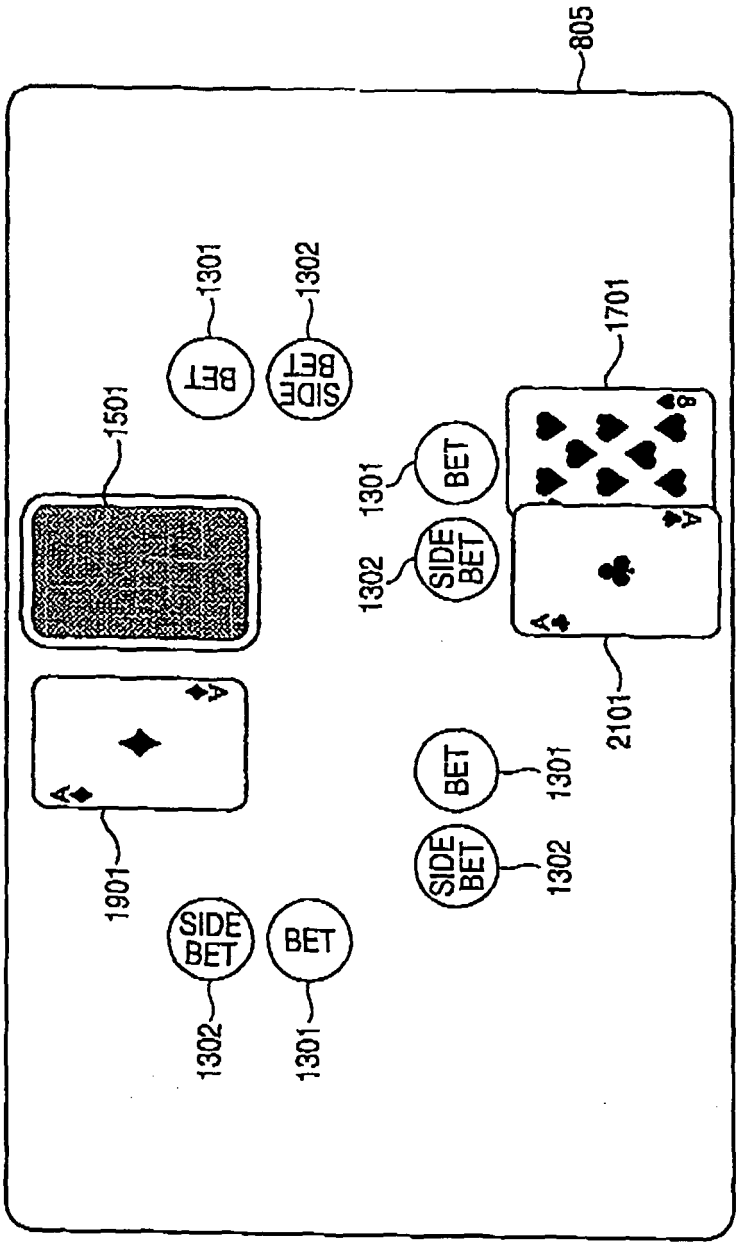

805
1301
1302
BET
SIDE BET
1501
1701
1301
BET
1302
SIDE BET
1901
2101
BET
1301
SIDE BET
1302
SIDE BET
BET
1302
1301

FIG. 22

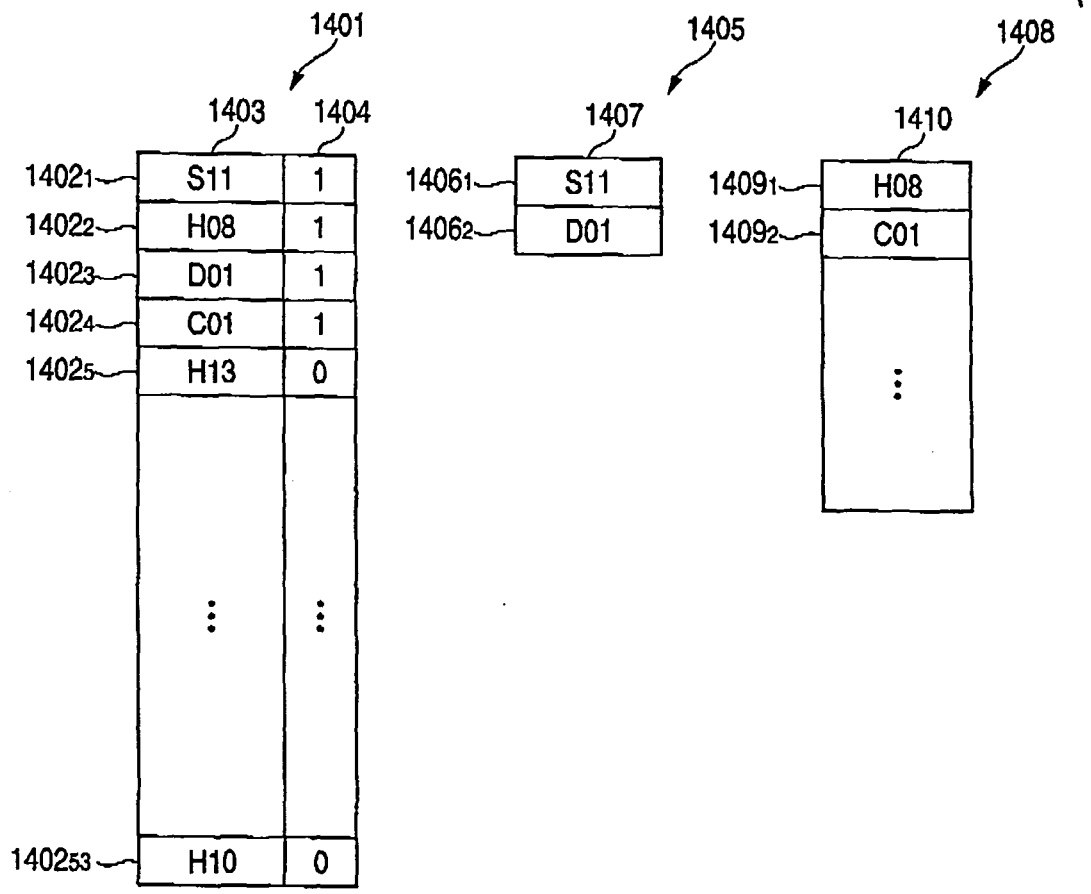
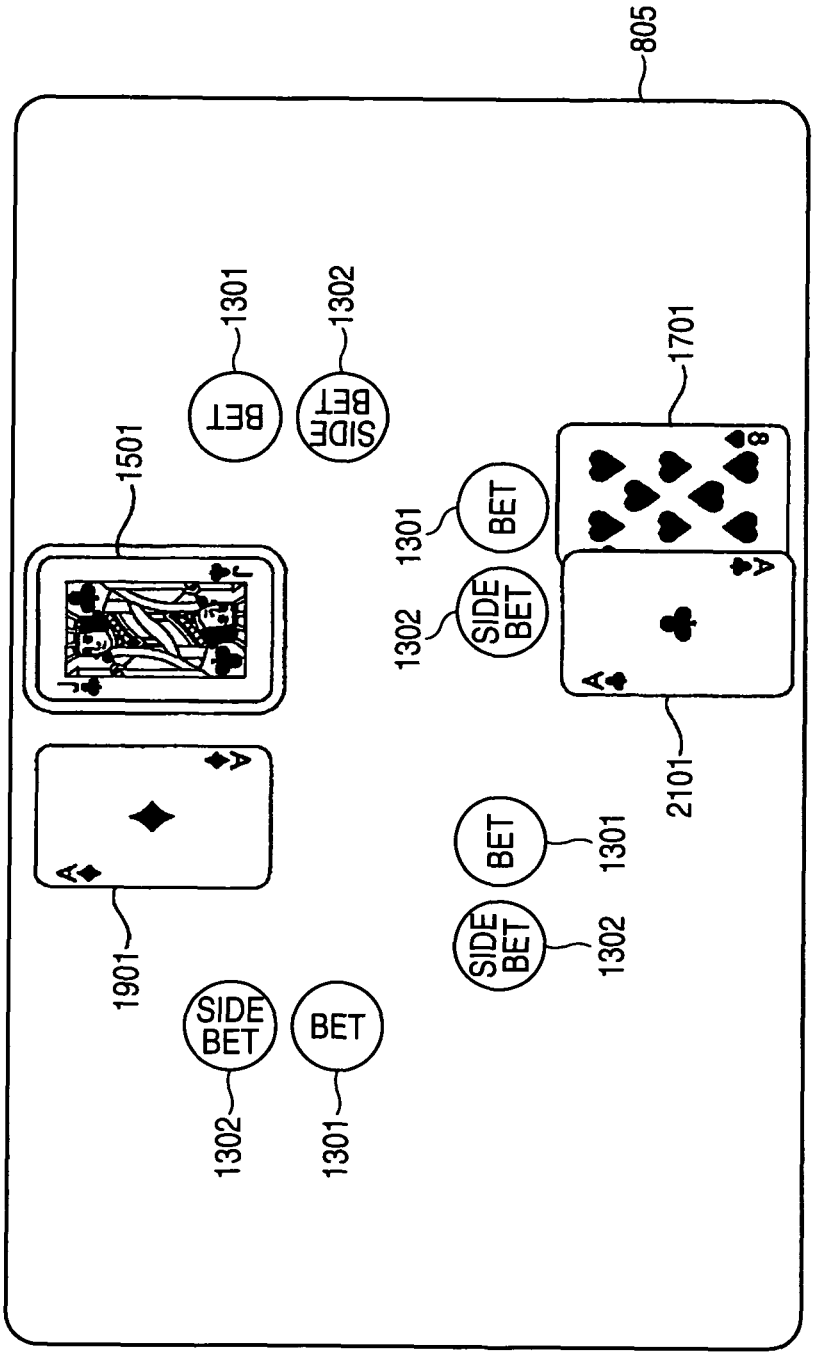

1401
1403
1404
14021 S11 1
14022 H08 1
14023 D01 1
14024 C01 1
14025 H13 0
140253 H10 0
1405
1407
14061 S11
14062 D01
1408
1410
14091 H08
14092 C01

FIG. 23


805
1301
BET
1302
SIDE BET
1501
1701
1301
BET
1302
SIDE BET
2101
1901
SIDE BET
1302
BET
1301
SIDE BET
1302
BET
1301

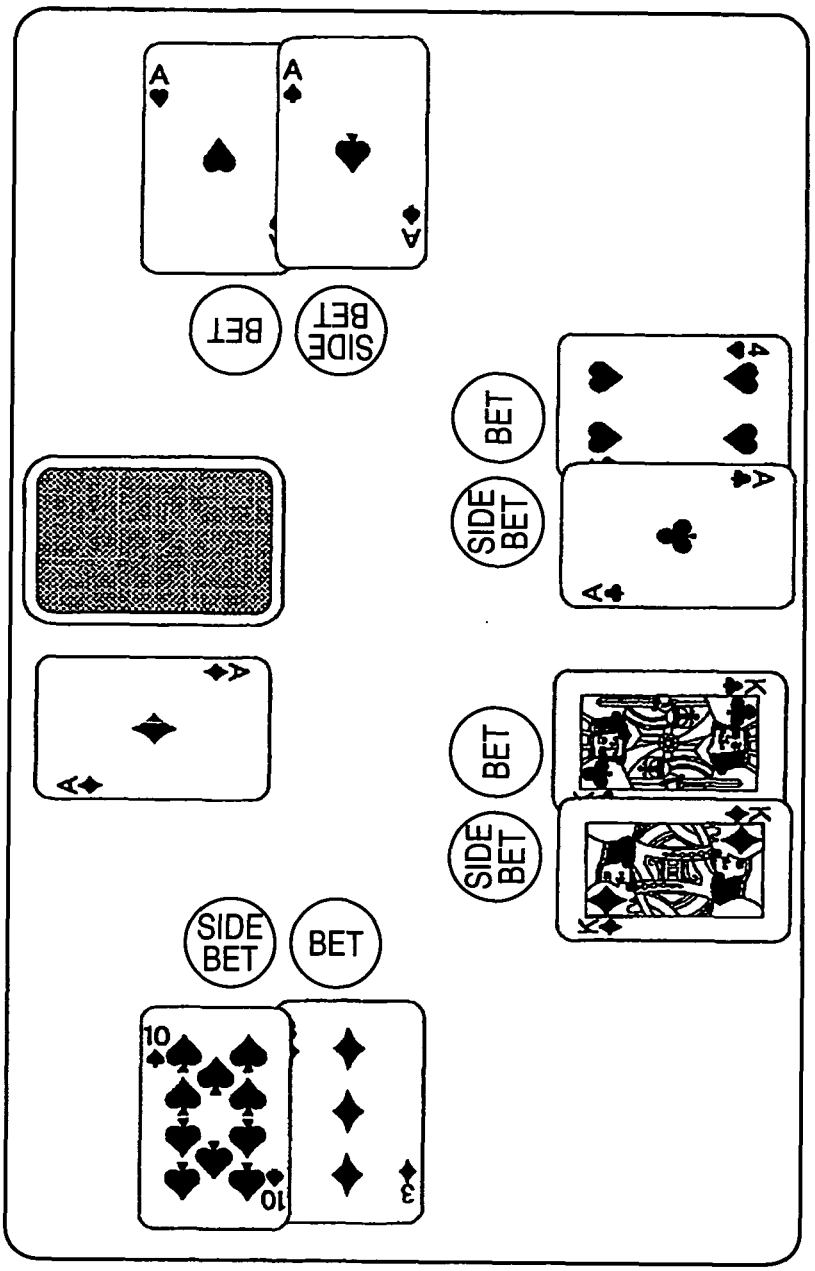



FIG. 24