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(71) Applicant: **Aruze Corporation**
Tokyo 135-0063 (JP)

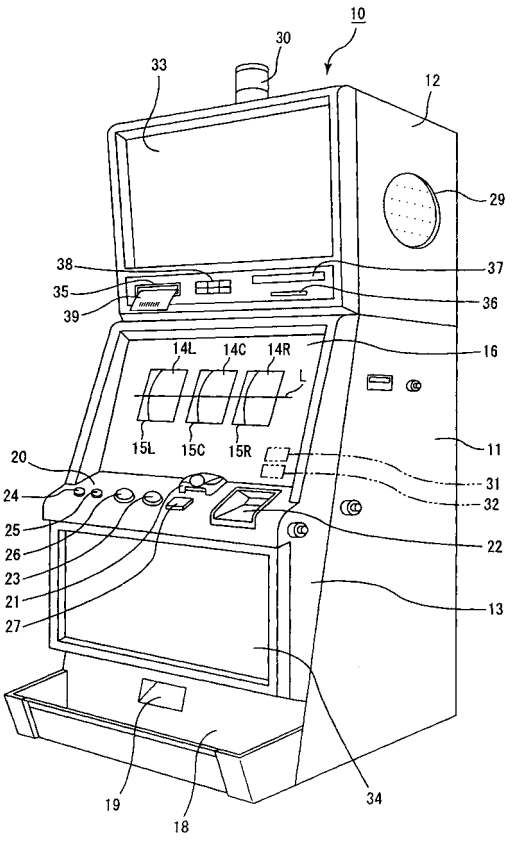
(72) Inventors:
- **Okada, Kazuo,**
  Tokyo 135-0063 (JP)
- **Fujimoto, Jun,**
  Tokyo 135-0063 (JP)

(74) Representative: **Joly, Jean-Jacques et al**
Cabinet Beau de Loménie
158, rue de l'Université
75340 Paris Cédex 07 (FR)

(54) Gaming machine, game control method and game system

(57) An object of the present invention is to provide a gaming machine which can prevent for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game. The gaming machine of the present invention includes: output means capable of outputting an image or a sound; winning combination determination means for determining a winning combination by a lottery; means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination; means for, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games, generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state; and means for providing, by outputting an image or a sound to the output means while the number of games is to reach the set value, a preliminary announcement that the second special game state will be generated when the number of games reaches the set value.

Fig. 2



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Description

TECHNICAL FIELD

[0001] The present invention relates to a gaming machine such as a slot machine in which a game is conducted using a game media (game valuable) such as a coin and the like, a game control method for the gaming machine, and a game system comprising the gaming machine and a control device.

BACKGROUND ART

[0002] Conventionally, in a facility in which gaming machines such as a slot machine are installed, a game is played by inserting various kinds of game media such as a coin, cash and the like into a gaming machine. Each gaming machine pays out a dividend to a player according to a prize wining state (a result of playing the game) generated while the game is in progress.

[0003] In a casino where plural slot machines are installed, a credit spent in each slot machine is partly reserved and in a case where the reservation reaches a predetermined amount, one of the slot machines provides a so-called "jackpot" paying out a big amount, which is not paid out in an ordinary hit (for example, see Patent Document 1). In such slot machines, a hit in each machine usually occurs on a preset probability and a player advances a game with expectation of the hit to be encountered. One of the slot machines has a chance to hit a jackpot at a timing in a lottery different from a common lottery in which a hit based on the above-mentioned probability is set in the slot machines. Generally, plural casinos are interconnected in a network in order to increase a payout amount in a jackpot.

[0004] Furthermore, a system has been available in which a host computer and plural gaming machines are interconnected on a network and the generating of a bonus in the gaming machines is controlled by the host computer (for example, see Patent Document 2). In this system, not only is the number of coins inserted into each gaming machine added up, but part of a total number of inserted coins in the plural gaming machines are separately added up as a bonus pool. The host computer gives a bonus qualification to a gaming machine in which the number of inserted coins reaches a predetermined number. The host computer transmits a command to one gaming machine selected from gaming machines having bonus qualification, when a value of the bonus pool reaches a predetermined threshold value. The gaming machine which received the command is enabled to play a bonus game high in gambling characteristic.

[0005]

Patent Document 1: JP-A 2003-117053
Patent Document 2: U.S. Patent No. 5,820,459

DISCLOSURE OF THE INVENTION

PROBLEMS TO BE SOLVED BY THE INVENTION

[0006] In a slot machine described in Patent Document 1, however, it is a player who plays a game in a gaming machine selected in a lottery that enjoys a profit from a jackpot. Hence, there has arisen a case where a player having spent many coins cannot enjoy a jackpot at all, but another player who has just started the game acquires a jackpot profit.

[0007] In the system described in Patent Document 2 as well, a chance to acquire the profit of a bonus game is one of gaming machines in which a total number of inserted coins reaches a predetermined number. A chance to acquire the profit of a bonus game is not always given to a player having spent many coins. Therefore, in the system described in Patent Document 2, there has arisen a case where a player having spent many coins cannot secure the profit of a bonus game and another player who has just started the game acquires a bonus game profit, in a similar way to that in a slot machine described in Patent Document 1.

[0008] In the system described in Patent Document 2, part of the number of inserted coins in each of plural gaming machines is added up as a bonus pool. Hence, in a case where an operation rate of the gaming machines in the system is low, a player, who has spent many of coins, has had a possibility not to be rewarded by the profit of a bonus game since the value of the bonus pool does not reaches a predetermined threshold value. Moreover, since the bonus game in the system described in Patent Document 2 is high in gambling characteristic, there has arisen a case where the profit of the bonus game cannot be acquired sufficiently by a player, even when he is given a chance capable of acquiring the profit.

[0009] If such circumstances occur, a player who has spent many coins may feel unpleasant against the game, build up distrust thereto, or lose interest in or a concern on the game.

[0010] The present invention has been made in light of the above-mentioned problems and it is an object of the present invention to provide: a gaming machine capable of preventing a player who has spent many of the game media such as coins from feeling unpleasant against a game, building up a distrust thereto, or losing interest in or a concern on the game; a game control method related to the gaming machine; and a gaming machine system equipped with the gaming machine and a control device.

MEANS FOR SOLVING THE PROBLEMS

[0011] In order to solve the above-mentionedproblems, the present invention provides the following configuration:

(1) A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games, generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state; and
means for providing, by outputting an image or a sound to the output means while the number of games is to reach the set value, a preliminary announcement that the second special game state will be generated when the number of games reaches the set value.

[0012] According to the configuration (1), when the number of games have reached a set value that is an object of comparison with the number of games, a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state is generated. Hence, even if the first special game state is not generated for a long period leading to the spending of many of the game media, the second special game state is generated as long as the game is played such that the number of games reaches the set value and thus a player can make profit for playing the game.

[0013] Moreover, the above-mentioned configuration provides, by outputting an image or a sound to the output means while the number of games is to reach the set value, a preliminary announcement that the second special game state will be generated when the number of games reaches the set value.
Therefore, a player can recognize that the second special game state will be generated when the number of games has reached the set value by the image or the sound, prior to generation of a second special game state. As a result, an impression can be made on the player that a return is carried out as a result of playing the game such that the number of games reaches the set value, and the player can enjoy the return without fail.

[0014] Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0015] Furthermore, the present invention provides the following configuration:

(2) A gaming machine comprising:
output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games, and that is selected from plural candidate values stepwise determined in advance, generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined; and
means for providing, when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value, by outputting an image or a sound to the output means.

[0016] According to the configuration (2), when the number of games reaches a set value that is an object of comparison with the number of games, which is selected from plural candidate values stepwise determined in advance (forexample, "500", "1000" and "2000"), the second special game state that is a game state advantageous to a player and in which a determined degree of advantage corresponding to the set value is generated. Hence, even if the first special game state is not generated for a long period leading to the spending of many of the game media, the second special game state is generated as long as the game is played such that the number of games reaches the set value and thus a player can make profit for playing the game.

[0017] Further, when the number of games has reached a set value for preliminary announcement (for example, "450") which is smaller by a predetermined value (for example, "50") than the set value (for example, "500"), a preliminary announcement that the second special game state will be generated after the player plays more games of the number (for example, 50 times) indicated by the predetermined value is provided by outputting an image or a sound to the output means. Therefore, a player can recognize the number of games before the second special game state will be generated by the image or the sound. As a result, an impression can be made on the player that a return is carried out as a result of playing the game such that the number of games reaches the set value, and the player can enjoy the return without fail.

[0018] Therefore, it can be prevented for a player who

has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0019] The present invention provides the following configuration:

(3) A gaming machine connected through a communication line to a control device which counts the number of games accumulatively for every gaming machine of plural gaming machines, comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for transmitting an identification information of a gaming machine to the control device through the communication line each time a game is played;
means for receiving a command signal transmitted from the control device when the number of games counted accumulatively by the control device based on the identification information of the gaming machine reaches a set value that is an object of comparison with the number of games, and that is selected from plural candidate values stepwise determined in advance;
means for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined, based on the command signal;
means for receiving a preliminary announcement command signal transmitted from the control device when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value; and
means for providing, based on the preliminary announcement command signal, a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value, by outputting an image or a sound to the output means.

[0020] According to the configuration (3), the second special game state is generated by the receiving of a command signal transmitted from the control device when the number of games counted in the control device reaches a set value selected from plural candidate values stepwise determined in advance. It is then provided a preliminary announcement by outputting an image or sound to the output means that when a preliminary announcement command signal transmitted from the control device is received in a case where the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, the second special game state will be generated after the player plays more games of the number indicated by the predetermined value. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0021] The present invention provides the following configuration:

(4) A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for counting accumulatively the number of games each time a game is played;
means for selecting a set value that is an object of comparison with the number of games from plural candidate values stepwise determined in advance;
means for determining whether or not the number of games has reached the set value;
means for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined, when the number of games is determined to have reached the set value; and
means for providing, when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value, by outputting an image or a sound to the output means.

[0022] According to the configuration (4), a set value that is an object of comparison with the number of games is selected from plural candidate values stepwise determined in advance and the number of games is counted accumulatively each time a game is played. Moreover, it is determined whether or not the number of games reaches the set value, and when it is determined that the number of games has reached the set value, the second special game state is generated. It is then provided a preliminary announcement by outputting an image or

sound to the output means that when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, the second special game state will be generated after the player plays more games of the number indicated by the predetermined value. Therefore, it can be prevented from for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0023] The present invention provides the following configuration:

(5) The gaming machine according to any of the configurations (2) to (4), wherein the means for providing a preliminary announcement that the second special game state will be generated provides, when the number of games has reached a candidate set value for preliminary announcement which is smaller by a predetermined value than any one of the plural candidate values, a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value.

[0024] According to the configuration (5), when the number of games has reached a candidate set value for preliminary announcement (for example, "450", "950", or "1950") which is smaller by a predetermined value (for example, "50") than any one of the plural candidate values (for example, "500", "1000", "2000"), a preliminary announcement that the second special game state will be generated after the player plays more games of the number (for example, 50 times) indicated by the predetermined value is provided by outputting an image or a sound to the output means. Therefore, a player can recognize the number of games before the second special game state will been generated by the image or the sound. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game.

[0025] The present invention provides the following configuration:

(6) The gaming machine according to any of the configurations (2) to (4), further comprising:

determining means for determining whether or not to provide a preliminary announcement that the second special game state will be generated irrespective of whether or not the second special game state will be generated, wherein

when the determining means determines to provide a preliminary announcement that the second special game state will be generated, the means for providing a preliminary announcement that the second special game state will be generated provides a preliminary announcement that the second special game state will be generated.

[0026] According to the configuration (6), it is determined whether or not to provide a preliminary announcement that the second special game state will be generated irrespective of whether or not the second special game state will be generated. When it is determined to provide a preliminary announcement that the second special game state will be generated, a preliminary announcement that the second special game state will be generated is provided. Therefore, there is provided a preliminary announcement that the second special game state is generated also in the case where the second special game state is not generated. On the other hand, it may not be provided a preliminary announcement that the second special game state is generated in the case where the second special game state is generated. Since the second special game state is not always generated according to the preliminary announcement, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, buildingup distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game.

[0027] The present invention provides the following configuration:

(7) The gaming machine according to any of the configurations (2) to (4), wherein the means for providing a preliminary announcement that the second special game state will be generated provides a preliminary announcement without including information concerning the stage of the set value related to the preliminary announcement in the content of the preliminary announcement.

[0028] According to the configuration (7), since a preliminary announcement is provided without including information (for example, information that the preliminary announcement is based on a set value "500") concerning the stage of the set value related to the preliminary announcement in the content of the preliminary announcement, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game occurring in the case where there is provided a preliminary announcement that the second special game state that a degree of advantage is relatively small is generated.

[0029] The present invention provides the following configuration:

(8) The gaming machine according to any of the configurations (2) to (4), the larger a set value the

number of games reaches, the means for generating the second special game state generates a second special game state in which a larger degree of advantage is determined.

[0030] According to the configuration (8), since a larger profit can be made in the second special game state with larger number of games, a profit matching the number of games played by the player can be given to the player in the second special game state. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0031] The present invention provides the following configuration:

(9) The gaming machine according to any of the configurations (2) to (4),
wherein
reception means that can accept for one game an insertion of game media up to a predetermined upper limit value is provided, and the means for generating the second special game state generates a second special game state in a case where the number of inserted game media for the game played by the player is equal to the upper limit when the number of games reaches the set value.

[0032] According to the configuration (9), a player can be urged to insert the game media up to the upper limit, thereby enabling a facility such as a casino to increase its profit.

[0033] The present invention provides the following configuration:

(10) A gaming machine equipped with a processing device, a storage device and an image or sound output device,
wherein
the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;
a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;
a processing reading from the storage device a program for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined when the number of games counted accumulatively each time a game is played reaches a set value that is an object of comparison with the number of games, and that is selected fromplural candidate values stepwise determined in advance, and executing the program; and
a processing reading from the storage device, when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, preliminary announcement data for providing a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0034] According to the configuration (10), the second special game state is generated when the number of games reaches a set value that is an object of comparison with the number of games and that is selected from plural candidate values stepwise determined in advance. When the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, an image or sound is then outputted to the output device based on preliminary announcement data for providing a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0035] The present invention provides the following configuration:

(11) A gaming machine equipped with a processing device, a storage device and an image or sound output device, and connected through a communication line to a control device which counts the number of games accumulatively for every gaming machine of plural gaming machines,
wherein
the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;
a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;
a processing transmitting an identification information on a gaming machine stored in the stor-

age device to the control device through the communication line each time a game is played;
a processing receiving a command signal transmitted from the control device when the number of games counted accumulatively by the control device based on the identification information on the gaming machine reaches a set value that is an object of comparison with the number of games and that is selected from plural candidate values stepwise determined in advance;
a processing reading from the storage device a program for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined based on the command signal, and executing the program;
a processing receiving a preliminary announcement command signal transmitted from the control device when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value; and
a processing reading from the storage device preliminary announcement data for providing a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value, based on the preliminary announcement command signal, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0036] According to the configuration (11), the second special game state is generated by the receiving of the command signal transmitted from the control device when the number of games counted in the control device reaches a set value selected from plural candidate values stepwise determined in advance. In a case where a preliminary announcement command signal transmitted from the control device is received when the number of games counted by the control device has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value is provided by outputting an image or a sound to the output device. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0037] The present invention provides the following configuration:

(12) A gaming machine equipped with a processing device, a storage device and an image or sound output device,
wherein
the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;
a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;
a processing counting the number of games accumulatively each time a game is played;
a processing selecting a set value that is an object of comparison with the number of games from plural candidate values stepwise determined in advance;
a processing determining whether or not the number of games has reached the set value;
a processing reading from the storage device a program for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined when the number of games is determined to have reached the set value, and executing the program; and
a processing reading from the storage device, when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, preliminary announcement data for providing a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0038] According to the configuration (12), a set value that is an object of comparison with the number of games is selected from plural candidate values stepwise determined in advance and the number of games is counted accumulatively each time a game is played. Moreover, it is determined whether or not the number of games has reached the set value and if it is determined that the number of games has reached the set value, the second special game state is generated. When the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, there is provided a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by a predetermined value by outputting an image or a sound to the output device. Therefore, it can be prevented for a player who has spent many of the game media from

feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0039] The present invention provides the following configuration:

(13) The gaming machine according to any of the configurations (10) to (12),
wherein
the processing device executes a processing reading from the storage device preliminary announcement data for providing, when the number of games has reached a candidate set value for preliminary announcement which is smaller by a predetermined value than any one of the plural candidate values, a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0040] According to the configuration (13), when the number of games has reached a candidate set value for preliminary announcement (for example, "450", "950", or "1950") which is smaller by a predetermined value (for example, "50") than any one of plural candidate values (for example, "500", "1000", "2000"), there is provided a preliminary announcement based on preliminary announcement data that the second special game state will be generated after the player plays more games of the number (for example, 50 times) indicated by the predetermined value by outputting an image or a sound to the output device. Therefore, a player can recognize the number of games before the second special game state will been generated by the image or the sound. As a result, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game.

[0041] The present invention provides the following configuration:

(14) The gaming machine according to any of the configurations (10) to (12),
wherein
the processing device executes:

a processing reading from the storage device a program for determining whether or not to provide a preliminary announcement that the second special game state will be generated irrespective of whether or not the second special game state will be generated, and executing the program; and
a processing reading from the storage device preliminary announcement data for providing a preliminary announcement that the second special game state will be generated when it is determined to provide a preliminary announcement that the second special game state will be generated, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0042] According to the configuration (14), it is determined whether or not to provide a preliminary announcement that the second special game state will be generated irrespective of whether or not the second special game state will be generated. When it is determined to provide a preliminary announcement that the second special game state will be generated, a preliminary announcement that the second special game state will be generated is provided. Therefore, there is provided a preliminary announcement that the second special game state is generated also in the case where the second special game state is not generated. On the other hand, it may not be provided a preliminary announcement that the second special game state is generated in the case where the second special game state is generated. Since the second special game state is not always generated according to the preliminary announcement, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game.

[0043] The present invention provides the following configuration:

(15) The gaming machine according to any of the configurations (10) to (12), wherein the processing device executed a processing reading from the storage device preliminary announcement data for providing a preliminary announcement that the second special game state will be generated with the preliminary announcement data not having information concerning the stage of the set value related to the preliminary announcement, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0044] According to the configuration (15), since there is provided a preliminary announcement that the second special game state is generated based on preliminary announcement data not including information concerning the stage of the set value related to the preliminary announcement in the content of the preliminary announcement, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game occurring in the case where there is provided a preliminary announcement that the second special game state that a degree of advantage is relatively small is generated.

[0045] The present invention provides the following

configuration:

(16) The gaming machine according to any of the configurations (10) to (12), wherein the larger a set value the number of games reaches, the processing device executes a program for generating the second special game state in which a larger degree of advantage is determined.

[0046] According to the configuration (16), since a larger profit can be made in the second special game state with larger number of games, a profit matching the number of games played by the player can be given to the player in the second special game state. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0047] The present invention provides the following configuration:

(17) The gaming machine according to any of the configurations (10) to (12), wherein the processing device executes a program for generating the second special game state when the number of games reaches the set value in a case where the number of inserted game media for a game played by the player is the upper limit value of the number of game media to be inserted for one game.

[0048] According to the configuration (17), a player can be urged to insert game media up to the upper limit, thereby enabling a facility such as a casino to increase its profit.

[0049] The present invention provides the following configuration:

(18) A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to a set value is determined when a payment balance in terms of the game media is equal to or less than the set value that is selected from plural candidate values stepwise determined in advance and that is an obj ect of comparison with a payment balance in terms of the game media; and
means for providing a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value by outputting an image or a sound to the output means when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value.

[0050] According to the configuration (18), when the payment balance in terms of the game media reaches a value equal to or less than a set value that is an object of comparison with a payment balance in terms of the game media and that is selected fromplural candidate values stepwise determined in advance (for example, "-500", -1000" and -2000"), the second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined is generated. Therefore, if many of the game media are spent and a payment balance in terms of the game media is equal to or less than the set value, the second special game state is generated and thus the player can earn a profit for playing the game.

[0051] Further, there is provided a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value by outputting an image or a sound to the output means when the payment balance in terms of the game media has reached a set value for preliminary announcement (for example, "-450") which is greater by a predetermined value (for example, "50") than the set value (for example, "-500"). Therefore, a player can recognize the spending of the game media before the second special game state will be generated by the image or the sound. As a result, an impression can be made on the player that a return is carried out as a result of playing the game such that payment balance in terms of the game media becomes equal to or less than the set value, and the player can enjoy the return without fail.

[0052] Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0053] The present invention provides the following configuration:

(19) A gaming machine connected through a communication line to a control device which counts the payment balance in terms of the game media accumulatively for every gaming machine of plural gaming machines, comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state

that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for transmitting a payment balance in terms of the game media in a game played by a player together with an identification information of the gaming machine to the control device through the communication line each time a game is played;
means for receiving a command signal transmitted from the control device when the payment balance in terms of the game media counted accumulatively by the control device based on the identification information of the gaming machine and the payment balance in terms of the game media in a game played by the player is equal to or less than a set value that is selected from plural candidate values stepwise determined in advance and that is an object of comparison with the payment balance in terms of the game media;
means for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined, based on the command signal;
means for receiving a preliminary announcement command signal transmitted from the control device when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value; and
means for providing a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value, based on the preliminary announcement command signal, by outputting an image or a sound to the output means.

[0054] According to the configuration (19), the second special game state is generated by the receiving of a command signal transmitted from the control device when the payment balance in terms of the game media counted in the control device becomes equal to or less than a set value selected from plural candidate values stepwise determined in advance. It is then provided a preliminary announcement by outputting an image or sound to the output means that when a preliminary announcement command signal transmitted from the control device is received in a case where the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value, the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0055] The present invention provides the following configuration:

(20) A gaming machine comprising:

output means capable of outputting an image or a Sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for counting accumulatively the payment balance in terms of the game media each time a game is played;
means for selecting a set value that is an object of comparison with the payment balance in terms of the game media from plural candidate values stepwise determined in advance;
means for determining whether or not the payment balance in terms of the game media has become equal to or less than the set value;
means for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined, when the payment balance in terms of the game media is determined to have become equal to or less than the set value; and
means for providing a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value by outputting an image or a sound to the output means when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value.

[0056] According to the configuration (20), a set value that is an object of comparison with the payment balance in terms of the game media is selected from plural candidate values stepwise determined in advance and the payment balance in terms of the game media is counted accumulatively each time a game is played. Moreover, it is determined whether or not the payment balance in terms of the game media becomes equal to or less than the set value, and when it is determined that the payment balance in terms of the game media has becomes equal to or less than the set value, the second special game state is generated. It is then provided a preliminary announcement by outputting an image or sound to the output means that when the payment balance in terms of

the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value, the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value. Therefore, it can be prevented from for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0057] The present invention provides the following configuration:

(21) The gaming machine according to any of the configurations (18) to (20), wherein the means for providing a preliminary announcement that the second special game state will be generated provides a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the candidate value when the payment balance in terms of the game media has reached a candidate set value for preliminary announcement which is larger by the predetermined value than any one of the plural candidate values.

[0058] According to the configuration (21), there is provided a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the candidate value by outputting an image or a sound to the output means when the payment balance in terms of the game media has reached a candidate set value for preliminary announcement (for example, "-450", "-950", or "-1950") which is larger by the predetermined value (for example, "50") than any one of the plural candidate values (for example, "-500", "-1000", "-2000"). Therefore, a player can recognize that the second special game state will be generated when the payment balance in terms of the game media becomes equal to or less than the candidate value, by the image or the sound. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game.

[0059] The present invention provides the following configuration:

(22) The gaming machine according to any of the configurations (18) to (20), further comprising:

determining means for determining whether or not to provide a preliminary announcement that the second special game state will be generated irrespective of whether or not the second special game state will be generated, wherein
the means for providing a preliminary announcement that the second special game state will be generated provides a preliminary announcement that the second special game state will be generated, when the determining means determines to provide a preliminary announcement that the second special game state will be generated.

[0060] According to the configuration (22), it is determined whether or not to provide a preliminary announcement that the second special game state will be generated irrespective of whether or not the second special game state will be generated. When it is determined to provide a preliminary announcement that the second special game state will be generated, a preliminary announcement that the second special game state will be generated is provided.
Therefore, there is provided a preliminary announcement that the second special game state is generated also in the case where the second special game state is not generated. On the other hand, it may not be provided a preliminary announcement that the second special game state is generated in the case where the second special game state is generated. Since the second special game state is not always generated according to the preliminary announcement, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game.

[0061] The present invention provides the following configuration:

(23) The gaming machine according to any of the configurations (18) to (20), wherein the means for providing a preliminary announcement that the second special game state will be generated provides a preliminary announcement without including information concerning the stage of the set value related to the preliminary announcement in the content of the preliminary announcement.

[0062] According to the configuration (23), since a preliminary announcement is provided without including information concerning the stage of the set value related to the preliminary announcement in the content of the preliminary announcement, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game occurring in the case where there is provided a preliminary announcement that the second special game state that a degree of advantage is relatively small is generated.

[0063] The present invention provides the following configuration:

(24) The gaming machine according to any of the configurations (18) to (20), wherein the smaller a set

value the payment balance in terms of the game media reaches, the means for generating the second special game state generates a second special game state in which a larger degree of advantage is determined.

[0064] According to the configuration (24), since a larger profit can be made in the second special game state with smaller payment balance in terms of the game media, a profit compensating the loss of the player can be given to the player in the second special game state. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0065] The present invention provides the following configuration:

(25) The gaming machine according to any of the configurations (18) to (20),
wherein
reception means that can accept for one game an insertion of game media up to a predetermined upper limit value is provided, and the means for generating the second special game state generates a second special game state in a case where the number of inserted game media for the game played by the player is equal to the upper limit when the payment balance in terms of the game media becomes equal to or less than the set value.

[0066] According to the configuration (25), a player can be urged to insert the game media up to the upper limit, thereby enabling a facility such as a casino to increase its profit.

[0067] The present invention provides the following configuration:

(26) A gaming machine equipped with a processing device, a storage device and an image or sound output device,
wherein
the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;
a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;
a processing reading from the storage device a program for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined when the payment balance in terms of the game media counted accumulatively each time a game is played becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, and that is selected from plural candidate values stepwise determined in advance, and executing the program; and
a processing reading from the storage device preliminary announcement data for providing a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0068] According to the configuration (26), the second special game state is generated when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media and that is selected from plural candidate values stepwise determined in advance. An image or sound is then outputted to the output device based on preliminary announcement data for providing a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0069] The present invention provides the following configuration:

(27) A gaming machine equipped with a processing device, a storage device and an image or sound output device, and connected through a communication line to a control device which counts the payment balance in terms of the game media accumulatively for every gaming machine of plural gaming machines,
wherein
the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;

a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;

a processing transmitting the number of inserted game media and the number of payout game media in the game played by a player together with an identification information on the gaming machine which are stored in the storage device to the control device through the communication line each time a game is played;

a processing receiving a command signal transmitted from the control device when the payment balance in terms of the game media counted accumulatively by the control device based on the identification information on the gaming machine, the number of inserted game media and the number of payment media in the game played by a player becomes equal to or less than a set value that is an obj ect of comparison with the payment balance in terms of the game media and that is selected from plural candidate values stepwise determined in advance;

a processing reading from the storage device a program for generating the second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined based on the command signal, and executing the program;

a processing receiving a preliminary announcement command signal transmitted from the control device when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value; and

a processing reading from the storage device preliminary announcement data for providing a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value, based on the preliminary announcement command signal, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0070] According to the configuration (27), the second special game state is generated by the receiving of the command signal transmitted from the control device when the payment balance in terms of the game media counted in the control device becomes equal to or less than a set value selected from plural candidate values stepwise determined in advance. A preliminary announcement command signal transmitted from the control device is received when the payment balance in terms of the game media counted by the control device has reached a set value for preliminary announcement which is larger by a predetermined value than the set value, there is provided a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value by outputting an image or a sound to the output device. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0071] The present invention provides the following configuration:

(28) A gaming machine equipped with a processing device, a storage device and an image or sound output device,

wherein

the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;

a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;

a processing counting the payment balance in terms of the game media accumulatively each time a game is played;

a processing selecting a set value that is an object of comparison with the payment balance in terms of the game media from plural candidate values stepwise determined in advance;

a processing determining whether or not the payment balance in terms of the game media has become equal to or less than the set value;

a processing reading from the storage device a program for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined when the payment balance in terms of the game media is determined to have become equal to or less than the set value, and executing the program; and

a processing reading from the storage device preliminary announcement data for providing a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value when the payment balance in terms of the game media has reached a set value for preliminary

announcement which is larger by a predetermined value than the set value, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0072] According to the configuration (28), a set value that is an object of comparison with the payment balance in terms of the game media is selected from plural candidate values stepwise determined in advance and the payment balance in terms of the game media is counted accumulatively each time a game is played. Moreover, it is determined whether or not the payment balance in terms of the game media has become equal to or less than the set value and if it is determined that the payment balance in terms of the game media has become equal to or less than the set value, the second special game state is generated. There is provided a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value, by outputting an image or a sound to the output device. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0073] The present invention provides the following configuration:

(29) The gaming machine according to any of the configurations (26) to (28),
wherein
the processing device executes a processing reading from the storage device preliminary announcement data for providing a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the candidate value when the payment balance in terms of the game media has reached a candidate set value for preliminary announcement which is larger by a predetermined value than any one of a plurality of the candidate values, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0074] According to the configuration (29), there is provided a preliminary announcement based on preliminary announcement data that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the candidate value by outputting an image or a sound to the output device when the payment balance in terms of the game media has reached a candidate set value for preliminary announcement (for example, "-450", "-950", or "-1950") which is larger by a predetermined value (for example, "50") than any one of the plural candidate values (for example, "-500", "-1000", "-2000"). Therefore, a player can recognize that the second special game state will be generated by the image or the sound in a case where the payment balance in terms of the game media becomes equal to or less than the candidate value. As a result, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game.

[0075] The present invention provides the following configuration:

(30) The gaming machine according to any of the configurations (26) to (28),
wherein
the processing device executes:

a processing reading from the storage device a program for determining whether or not to provide a preliminary announcement that the second special game state will be generated irrespective of whether or not the second special game state will be generated, and executing the program; and
a processing reading from the storage device preliminary announcement data for providing a preliminary announcement that the second special game state will be generated when it is determined to provide a preliminary announcement that the second special game state will be generated, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0076] According to the configuration (30), it is determined whether or not to provide a preliminary announcement that the second special game state will be generated irrespective of whether or not the second special game state will be generated. When it is determined to provide a preliminary announcement that the second special game state will be generated, a preliminary announcement that the second special game state will be generated is provided. Therefore, there is provided a preliminary announcement that the second special game state is generated also in the case where the second special game state is not generated. On the other hand, it may not be provided a preliminary announcement that the second special game state is generated in the case where the second special game state is generated. Since the second special game state is not always generated according to the preliminary announcement, it can be prevented for a player who has spent many of the game media from feelingunpleasant against the game, buildingup distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game.

[0077] The present invention provides the following configuration:

(31) The gaming machine according to any of the configurations (26) to (28),
wherein
the processing device executes a processing reading from the storage device preliminary announcement data for providing a preliminary announcement that the second special game state will be generated with the preliminary announcement data not having information concerning the stage of the set value related to the preliminary announcement, and outputting an image or a sound to the output device based on the preliminary announcement data.

[0078] According to the configuration (31), since there is provided a preliminary announcement that the second special game state is generated based on preliminary announcement data not including information concerning the stage of the set value related to the preliminary announcement in the content of the preliminary announcement, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game occurring in the case where there is provided a preliminary announcement that the second special game state that a degree of advantage is relatively small is generated.

[0079] The present invention provides the following configuration:

(32) The gaming machine according to any of the configurations (26) to (28), wherein the smaller a set value the payment balance in terms of the game media reaches, the processing device executes a program for generating the second special game state in which a larger degree of advantage is determined.

[0080] According to the configuration (32), since a larger profit can be made in the second special game state with smaller payment balance in terms of the game media, a profit compensating the loss of the player can be given to the player in the second special game state. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0081] The present invention provides the following configuration:

(33) The gaming machine according to any of the configurations (26) to (28),
wherein
the processing device executes a program for generating the second special game state when the payment balance in terms of the game media becomes equal to or less than the set value in a case where the number of inserted game media for a game played by the player is the upper limit value of the number of game media to be inserted for one game.

[0082] According to the configuration (33), a player can be urged to insert game media up to the upper limit, thereby enabling a facility such as a casino to increase its profit.

[0083] The present invention provides the following configuration:

(34) A gaming machine comprising:

means for giving a stepwise different profit to a player according to the number of games played by the player; and
means for providing a preliminary announcement to the player by an image or a sound different according to the number of games that the stepwise different profit is given according to the number of games played by the player until the stepwise different profit according to the number of games is given.

[0084] According to the configuration (34), the stepwise different profit is given according to the number of games played by the player. A preliminary announcement that the stepwise different profit is given according to the number of games played by the player is provided to the player by an image or a sound different according to the number of games until the stepwise different profit according to the number of games is given. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0085] The present invention provides the following configuration:

(35) A gaming machine comprising:

means for giving a stepwise different profit to a player according to the payment balance in terms of the game media of the player; and
means for providing a preliminary announcement to the player by an image or a sound different according to the payment balance in terms of the game media that the stepwise different profit is given according to the payment balance in terms of the game media of the player until the stepwise different profit according to the payment balance in terms of the game media is given.

[0086] According to the configuration (35), the stepwise different profit is given according to the payment balance in terms of the game media. A preliminary announcement that the stepwise different profit is given ac-

cording to the payment balance in terms of the game media is provided to the player by an image or a sound different according to the payment balance in terms of the game media until the stepwise different profit according to the payment balance in terms of the game media is given. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0087] The present invention provides the following configuration:

(36) A game control method comprising:

a step of giving a stepwise different profit to a player according to the number of games played by the player; and
a step of providing a preliminary announcement to the player by an image or a sound different according to the number of games that the stepwise different profit is given according to the number of games played by the player until the stepwise different profit according to the number of games is given.

[0088] According to the configuration (36), the stepwise different profit is given according to the number of games played by the player. A preliminary announcement that the stepwise different profit is given according to the number of games played by the player is provided to the player by an image or a sound different according to the number of games until the stepwise different profit according to the number of games is given. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0089] The present invention provides the following configuration:

(37) A game control method comprising:

a step of giving a stepwise different profit to a player according to the payment balance in terms of the game media of the player; and
a step of providing a preliminary announcement to the player by an image or a sound different according to the payment balance in terms of the game media that the stepwise different profit is given according to the payment balance in terms of the game media until the stepwise different profit according to the payment balance in terms of the game media is given.

[0090] According to the configuration (37), the stepwise different profit is given according to the payment balance in terms of the game media. A preliminary announcement that the stepwise different profit is given according to the payment balance in terms of the game media is provided to the player by an image or a sound different according to the payment balance in terms of the game media until the stepwise different profit according to the payment balance in terms of the game media is given. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0091] The present invention provides the following configuration:

(38) A game system equipped with a gaming machine and a control device,
wherein
the control device includes:

means for transmitting a signal to the gaming machine according to the number of games played in the gaming machine by a player, and
the gaming machine includes:

means for giving a stepwise different profit according to the number of games based on the signal received from the control device; and
means for providing a preliminary announcement to the player by an image or a sound different according to the number of games that the stepwise different profits is given according to the number of games until the stepwise different profit according to the number of games is given.

[0092] According to the configuration (38), the stepwise different profit is given according to the number of games played by the player. A preliminary announcement that the stepwise different profit is given according to the number of games played by the player is provided to the player by an image or a sound different according to the number of games until the stepwise different profit according to the number of games is given. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0093] The present invention provides the following configuration:

(39) A game system equipped with a gaming machine and a control device,
wherein
the control device includes:

means for transmitting a signal to the gaming machine according to the payment balance in terms of the game media of the player in the gaming machine, and

the gaming machine includes:

means for giving a stepwise different profit according to the payment balance in terms of the game media based on the signal received from the control device; and
means for providing a preliminary announcement to the player by an image or a sound different according to the payment balance in terms of the game media that the stepwise different profits is given according to the payment balance in terms of the game media until the stepwise different profit according to the payment balance in terms of the game media is given.

[0094] According to the configuration (39), the stepwise different profit is given according to the payment balance in terms of the game media. A preliminary announcement that the stepwise different profit is given according to the payment balance in terms of the game media is provided to the player by an image or a sound different according to the payment balance in terms of the game media until the stepwise different profit according to the payment balance in terms of the game media is given. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0095] The present invention provides the following configuration:

(40) A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games, generating a second special game state that is a game state advantageous to a player and that is the same type as or different type from the first special game state; and
means for providing, when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value by outputting an image or a sound to the output means.

[0096] According to the configuration (40), when the number of games reaches a set value (for example, "2000") that is an object of comparison with the number of games, a second special game state that is a game state advantageous to a player and that is the same type as or different type from the first special game state is generated. When the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, there is provided a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value by outputting an image or a sound to the output device. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0097] The present invention provides the following configuration:

(41) A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for, when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, generating a second special game state that is a game state advantageous to a player and that is the same type as or different type from the first special game state; and
means for providing a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value by outputting an image or a sound to the output means when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value.

[0098] According to the configuration (41), when the payment balance in terms of the game media becomes equal to or less than a set value (for example, "-2000") that is an obj ect of comparison with the payment balance in terms of the game media, a second special game state is generated. When the payment balance in terms of the game media has reached a set value for preliminary an-

nouncement which is larger by a predetermined value than the set value, there is provided a preliminary announcement that the second special game state will be generated in a case where the payment balance in terms of the game media becomes equal to or less than the set value by outputting an image or a sound to the output device. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0099] In order to solve the above-mentionedproblems, the present invention provides the following configuration:

(42) A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games, generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state; and
means for notifying by outputting an image or a sound to the output means, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a counting value which shows the required number of games to reach the set value, each time a game is played.

[0100] According to the configuration (42), when the number of games reaches a set value that is an object of comparison with the number of games (for example, "2000"), the second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state is generated. Hence, even if the first special game state is not generated for a long period leading to the spending of many of the game media, the second special game state is generated as long as the game is played such that the number of games reaches the set value and thus a player can make profit for playing the game.

[0101] Further, after the number of games has reached a set value for preliminary announcement (for example, "450") which is smaller by a predetermined value (for example, "50") than the set value (for example, "500"), a counting value which shows the required number of games to reach the set value is provided, by outputting an image or a sound to the output means, each time a game is played. Therefore, a player can recognize how many more games are required to be played for generating the second special game state, by a countdown being performed with the image or the sound for each single game (1 game). As a result, an impression can be made on the player that a return is carried out as a result of playing the game such that the number of games reaches the set value, and it can also prevent a situation that the player cannot get any return from occurring.

[0102] Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0103] The present invention provides the following configuration:

(43) A gaming machine connected through a communication line to a control device which counts the number of games accumulatively for every gaming machine of plural gaming machines, comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for transmitting identification information of the gaming machine to the control device through the communication line each time a game is played;
means for receiving a command signal transmitted from the control device when the number of games counted accumulatively by the control device based on the identification information of the gaming machine reaches a set value that is an object of comparison with the number of games;
means for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state, based on the command signal;
means for receiving, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a preliminary announcement command signal transmitted from the control device each time a game is played; and
means for notifying, based on the preliminary announcement command signal, a counting value which shows the required number of games to reach the set value, by outputting an image or a sound to the output means.

[0104] According to the configuration (43), the second special game state is generated by the receiving of a command signal transmitted from the control device when the number of games counted in the control device reaches a set value that is an object of comparison with the number of games. Further, when a preliminary announcement command signal which is transmitted from the control device is received each time a game is played, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a counting value which shows the required number of games to reach the set value is notified by outputting an image or a sound to the output means. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0105] The present invention provides the following configuration:

(44) A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for counting accumulatively the number of games each time a game is played;
means for determining whether or not the number of games has reached a set value that is an object of comparison with the number of games;
means for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state, when the number of games is determined to have reached the set value; and
means for notifying by outputting an image or a sound to the output means, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a counting value which shows the required number of games to reach the set value, each time a game is played.

[0106] According to the configuration (44), the number of games is counted accumulatively each time a game is played. Moreover, it is determined whether or not the number of games reaches the set value, and when it is determined that the number of games has reached the set value, the second special game state is generated. Further, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a counting value which shows the required number of games to reach the set value is notified, each time a game is played, by outputting an image or a sound to the output means. Therefore, it can be prevented from for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0107] The present invention provides the following configuration:

(45) The gaming machine according to the configurations (42) or (44), further comprising:

means for setting the number of games to a predetermined number when the first special game state is generated.

[0108] According to the configuration (45), since the number of games is set to a predetermined number (for example, "0") when the first special game state is generated, it can be prevented for a player who has obtained a profit by the generated first special game state from obtaining an excessive return.

[0109] The present invention provides the following configuration:

(46) The gaming machine according to the configuration (45), wherein
the means for generating the second special game state generates a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games, and that is selected fromplural candidate values stepwise determined in advance; and
the means for notifying the counting value notifies information about the stage of the set value related to the concerned notification, by including the information in the content of notification.

[0110] According to the configuration (46), when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games which is selected from plural candidate values stepwise determined in advance (for example, "500", "1000" and "2000"), the second special game state that is a game state advantageous to a player and in which a determined degree of advantage corresponding to the set value is generated. After the number of games has reached a set value for preliminary announcement, information about the stage of the set value related to the concerned notification (for example, information indicating that the stage of the set value related to the notification is a stage based on a set

value of "500") is notified together with the counting value, each time a game is played, by including the information in the content of notification.

Further, when the first special game state is generated, the number of games is set to a predetermined number (for example, "0"). Accordingly, for example, when it is notified by countdown that the second special game state to be generated is low in the degree of advantage corresponding to the set value, even if a first special game state is generated before the second special game state, the player will hardly be exasperated. However, when the first special game state is generated before the second special game state at the time when it is notified by countdown that the second special game state to be generated is high in the degree of advantage corresponding to the set value, this will significantly exasperate the player since the countdown will be restarted. Thus, it is possible to induce changeful psychological states.

[0111] The present invention provides the following configuration:

(47) The gaming machine according to the configuration (45),
wherein
the means for generating the second special game state generates a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games, and that is selected from plural candidate values stepwise determined in advance; and
the means for notifying the counting value notifies, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, and which the predetermined value is larger with larger the set value, a counting value each time a game is played.

[0112] According to the configuration (47), for example, when the second special game state to be generated is high in the degree of advantage, the countdown for the notifying thereof is started at an early stage, thereby causing the player to be amused by the countdown for a longer time until the second special game state which is high in the degree of advantage is generated. For example, the player can wish that the first special game state will not be generated.

[0113] The present invention provides the following configuration:

(48) The gaming machine according to any of the configurations (42) to (44),
wherein
the means for generating the second special game state generates, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games, and that is selected from plural candidate values stepwise determined in advance, a second special game state that is a game state advantageous to a player, and in which a larger degree of advantage is determined with the number of games reaching a larger set value.

[0114] According to the configuration (48), since a larger profit can be made in the second special game state with larger number of games, a profit matching the number of games played by the player can be given to the player in the second special game state. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0115] The present invention provides the following configuration:

(49) The gaming machine according to any of the configurations (42) to (44),
wherein
reception means that can accept for one game an insertion of game media up to a predetermined upper limit value is provided, and the means for generating the second special game state generates a second special game state in a case where the number of inserted game media for the game played by the player is equal to the upper limit when the number of games reaches the set value.

[0116] According to the configuration (49), a player can be urged to insert the game media up to the upper limit, thereby enabling a facility such as a casino to increase its profit.

[0117] The present invention provides the following configuration:

(50) A control device connected with plural gaming machines through a communication line comprising:

means for receiving identification information of the gaming machine from the gaming machine through the communication line, each time a game is played;
means for accumulatively counting the number of games, based on the identification information of the gaming machine;
means for receiving from the gaming machine through the communication line, when the first special game state that is a game state advantageous to a player is generated, a reset signal which shows that the first special game state has been generated;
means for setting the number of games to a predetermined number when receiving the reset

signal;
means for transmitting, when the number of games reaches a set value that is an object of comparison with the number of games, a command signal for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined; and
means for transmitting a preliminary announcement command signal so that the gaming machine can notify, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a counting value which shows the required number of games to reach the set value, each time a game is played.

[0118] According to the configuration (50), each time a game is played, the gaming machine identification information is received from the gaming machine through the communication line and the number of games is accumulatively counted based on the received identification information. Further, when the number of games reaches the set value that is an object of comparison with the number of games, transmitted is a command signal for generating the second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined, and the second special game state is thereafter generated in the gaming machine. Hence, even if the first special game state is not generated for a long period leading to the spending of many of the game media, the second special game state is generated as long as the game is played such that the number of games reaches the set value and thus a player can make profit for playing the game.

[0119] Further, after the number of games has reached a set value for preliminary announcement (for example, "450") which is smaller by a predetermined value (for example, "50") than the set value (for example, "500"), a preliminary announcement command signal for causing the gaming machine to provide a notification of a counting value which shows the required number of games to reach the set value is transmitted each time a game is played, and the gaming machine thereafter provides a notification based on the transmitted preliminary announcement command signal. Therefore, a player can recognize how many more games are required to be played for generating the second special game state, by a countdown for each single game (1 game). As a result, an impression can be made on the player that a return is carried out as a result of playing the game such that the number of games reaches the set value, and it can also prevent a situation that the player cannot get any return from occurring.

[0120] Further, when the first special game state which is a game state advantageous to the player has been generated, on receiving from the gaming machine through the communication line a reset signal showing that the first special game state has been generated, since the number of games is set to a predetermined value (for example, "0"), it can be prevented for a player who has obtained a profit by the generated first special game state from obtaining an excessive return.

[0121] The present invention provides the following configuration:

(51) A gaming machine equipped with a processing device, a storage device and an image or sound output device,
wherein
the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;
a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;
a processing reading from the storage device a program for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state when the number of games counted accumulatively each time a game is played reaches a set value that is an object of comparison with the number of games, and executing the program; and
a processing reading from the storage device, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, notification data for notifying a counting value which shows the required number of games to reach the set value, and outputting an image or a sound to the output device based on the notification data, each time a game is played.

[0122] According to the configuration (51), the second special game state is generated when the number of games reaches a set value that is an object of comparison with the number of games. Further, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, the gaming machine outputs an image or a sound to the output device, based on notification data for notifying a counting value which shows the required number of games to reach the set value, each time a game is played. Therefore, it can be prevented for a player who has spent many of the game media from feeling

unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0123] The present invention provides the following configuration:

(52) A gaming machine equipped with a processing device, a storage device and an image or sound output device, and connected through a communication line to a control device which counts the number of games accumulatively for every gaming machine of plural gaming machines, wherein
the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;
a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;
a processing transmitting identification information on a gaming machine stored in the storage device to the control device through the communication line each time a game is played;
a processing receiving a command signal transmitted from the control device when the number of games counted accumulatively by the control device based on the identification information on the gaming machine reaches a set value that is an object of comparison with the number of games;
a processing reading from the storage device, based on the command signal, a program for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state, and executing the program;
a processing receiving, after the number of games reaches a set value for preliminary announcement which is smaller by a predetermined value than the set value, a preliminary announcement command signal transmitted from the control device each time a game is played; and
a processing reading from the storage device, based on the preliminary announcement command signal, notification data for notifying a counting value which shows the required number of games to reach the set value, and outputting an image or a sound to the output device based on the notification data.

[0124] According to the configuration (52), the second special game state is generated by the receiving of a command signal transmitted from the control device when the number of games counted in the control device reaches a set value that is an object of comparison with the number of games. Further, when a preliminary announcement command signal which is transmitted from the control device is received each time a game is played, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a counting value which shows the required number of games to reach the set value is notified by outputting an image or a sound to the output means. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0125] The present invention provides the following configuration:

(53) A gaming machine equipped with a processing device, a storage device and an image or sound output device, wherein
the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;
a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;
a processing counting the number of games accumulatively each time a game is played;
a processing determining whether or not the number of games has reached a set value that is an object of comparison with the number of games;
a processing reading from the storage device, when the number of games is determined to have reached the set value, a program for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state, and executing the program; and
a processing reading from the storage device, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, notification data for notifying a counting value which shows the required number of games to reach the set value, and outputting an image or a sound to the output device based on the notification data, each time a game is played.

[0126] According to the configuration (53), the number

of games is counted accumulatively each time a game is played. Moreover, it is determined whether or not the number of games has reached the set value and if it is determined that the number of games has reached the set value, the second special game state is generated. Further, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a counting value which shows the required number of games to reach the set value is notified, each time a game is played, by outputting an image or a sound to the output means. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0127] The present invention provides the following configuration:

(54) The gaming machine according to the configurations (51) or (53),
wherein
the processing device executes a processing setting the number of games to a predetermined number when the first special game state is generated.

[0128] According to the configuration (54), since the number of games is set to a predetermined number when the first special game state is generated, it can be prevented for a player who has obtained a profit by the generated first special game state from obtaining an excessive return.

[0129] The present invention provides the following configuration:

(55) The gaming machine according the configuration (54),
wherein
the processing device executes:

a processing reading from the storage device, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games, and that is selected fromplural candidate values stepwise determined in advance, a program for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined, and executing the program; and
a processing reading from the storage device notification data for notifying information about the stage of the set value related to the concerned notification by including the information in the content of notification, and outputting an image or a sound to the output means based on the notification data.

[0130] According to the configuration (55), when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games which is selected from plural candidate values stepwise determined in advance, the second special game state that is a game state advantageous to a player and in which a determined degree of advantage corresponding to the set value is generated. After the number of games has reached a set value for preliminary announcement, information about the stage of the set value related to the concerned notification is notified together with the counting value, each time a game is played, by including the information in the content of notification.
Further, when the first special game state is generated, the number of games is set to a predetermined number. Accordingly, when it is notified by countdown that the second special game state to be generated is low in the degree of advantage corresponding to the set value, even if a first special game state is generated before the second special game state, the player will hardly be exasperated. However, when the first special game state is generated before the second special game state at the time when it is notified by countdown that the second special game state to be generated is high in the degree of advantage corresponding to the set value, this will significantly exasperate the player since the countdown will be restarted. Thus, it is possible to induce changeful psychological states.

[0131] The present invention provides the following configuration:

(56) The gaming machine according to the configuration (54),
wherein
the processing device executes:

a processing reading from the storage device, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games, and that is selected fromplural candidate values stepwise determined in advance, a program for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined, and executing the program; and
a processing reading from the storage device, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, and which the predetermined value is larger with larger the set value, notification data for notifying a counting value, and outputting an image or a sound to the output device based on the notification data, each time a game is played.

[0132] According to the configuration (56), for example, when the second special game state to be generated is high in the degree of advantage, the countdown for the notifying thereof is started at an early stage, thereby causing the player to be amused by the countdown for a longer time until the second special game state which is high in the degree of advantage is generated. For example, the player can wish that the first special game state will not be generated.

[0133] The present invention provides the following configuration:

(57) The gaming machine according to any of the configurations (51) to (53),
wherein
the processing device executes a program for generating, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with the number of games, and that is selected from plural candidate values stepwise determined in advance, a second special game state that is a game state advantageous to a player, and in which a larger degree of advantage is determined with the number of games reaching a larger set value.

[0134] According to the configuration (57), since a larger profit can be made in the second special game state with larger number of games, a profit matching the number of games played by the player can be given to the player in the second special game state. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0135] The present invention provides the following configuration:

(58) The gaming machine according to any of the configurations (51) to (53),
wherein
the processing device executes a program for generating the second special game state when the number of games reaches the set value in a case where the number of inserted game media for a game played by the player is the upper limit value of the number of game media to be inserted for one game.

[0136] According to the configuration (58), a player can be urged to insert the game media up to the upper limit, thereby enabling a facility such as a casino to increase its profit.

[0137] The present invention provides the following configuration:

(59) A control device provided with a processing device and connected with plural gaming machines through a communication line, wherein
the processing device executes:

a processing receiving identification information of the gaming machine from the plural gaming machines through the communication line, each time a game is played;
a processing accumulatively counting the number of games, based on the identification information of the gaming machine;
a processing receiving from the plural gaming machines through the communication line, when the first special game state that is a game state advantageous to a player is generated, a reset signal which shows that the first special game state has been generated;
a processing setting the number of games to a predetermined number when receiving the reset signal;
aprocessing transmitting, when the number of games reaches a set value that is an object of comparison with the number of games, a command signal for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined; and
a processing transmitting a preliminary announcement command signal so that the plural gaming machines can notify, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a counting value which shows the required number of games to reach the set value, each time a game is played.

[0138] According to the configuration (59), each time a game is played, the gaming machine identification information is received from the gaming machine through the communication line and the number of games is accumulatively counted based on the received identification information. Further, when the number of games reaches the set value that is an object of comparison with the number of games, transmitted is a command signal for generating the second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined, and the second special game state is thereafter generated in the gaming machine. Hence, even if the first special game state is not generated for a long period leading to the spending of many of the game media, the second special game state is generated as long as the game is played such that the number of games reaches the set value and thus a player can make profit for playing the game.

[0139] Further, after the number of games has reached a set value for preliminary announcement (for example, "450") which is smaller by a predetermined value (for

example, "50") than the set value (for example, "500"), a preliminary announcement command signal for causing the gaming machine to provide a notification of a counting value which shows the required number of games to reach the set value is transmitted each time a game is played, and the gaming machine thereafter provides a notification based on the transmitted preliminary announcement command signal. Therefore, a player can recognize how many more games are required to be played for generating the second special game state, by a countdown for each single game (1 game). As a result, an impression can be made on the player that a return is carried out as a result of playing the game such that the number of games reaches the set value, and it can also prevent a situation that the player cannot get any return from occurring.

[0140] Further, when the first special game state which is a game state advantageous to the player has been generated, on receiving from the gaming machine through the communication line a reset signal showing that the first special game state has been generated, since the number of games is set to a predetermined value (for example, "0"), it can be prevented for a player who has obtained a profit by the generated first special game state from obtaining an excessive return.

[0141] The present invention provides the following configuration:

(60) A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for, when a payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state; and
means for notifying by outputting an image or a sound to the output means, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a counting value which shows the required number of game media for the payment balance in terms of the game media to become equal to or less than the set value, each time a game is played.

[0142] According to the configuration (60), when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media (for example, "-500"), the second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state is generated. Therefore, if many of the game media are spent and a payment balance in terms of the game media is equal to or less than the set value, the second special game state is generated and thus the player can earn a profit for playing the game.

[0143] Further, after the payment balance in terms of the game media has reached a set value for preliminary announcement (for example, "-450") which is greater by a predetermined value (for example, "50") than the set value (for example, "-500"), a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value is notified, by outputting an image or a sound to the output means, each time a game is played. Therefore, a player can recognize how many more game media are required to be consumed for generating the second special game state, by a countdown being performed with the image or the sound for each single game (1 game). As a result, an impression can be made on the player that a return is carried out as a result of playing the game such that the payment balance in terms of the game media is equal to or less than the set value, and it can also prevent a situation that the player cannot get any return from occurring.

[0144] Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0145] The present invention provides the following configuration:

(61) A gaming machine connected through a communication line to a control device which counts the payment balance in terms of the game media accumulatively for every gaming machine of plural gaming machines, comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for transmitting a payment balance in terms of the game media in a game played by a player together with an identification information of the gaming machine to the control device through the communication line each time a game is played;

means for receiving a command signal transmitted from the control device when the payment balance in terms of the game media counted accumulatively by the control device based on the identification information of the gaming machine and the payment balance in terms of the game media in a game played by the player is equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media;
means for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state, based on the command signal;
means for receiving, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a preliminary announcement command signal transmitted from the control device each time a game is played; and
means for notifying, based on the preliminary announcement command signal, a counting value which shows the required number of game media for the payment balance in terms of the game media to become equal to or less than the set value, by outputting an image or a sound to the output means.

[0146] According to the configuration (61), the second special game state is generated by the receiving of a command signal transmitted from the control device when the payment balance in terms of the game media counted by the control device becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media. Further, when a preliminary announcement command signal which is transmitted from the control device is received each time a game is played, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value is notified by outputting an image or a sound to the output means. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0147] The present invention provides the following configuration:

(62) A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for counting a payment balance in terms of the game media accumulatively each time a game is played;
means for determining whether or not the payment balance in terms of the game media has become equal to or less than a set value that is an obj ect of comparison with the payment balance in terms of the game media;
means for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state, when the payment balance in terms of the game media is determined to have become equal to or less than the set value; and
means for notifying by outputting an image or a sound to the output means, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a counting value which shows the required number of game media for the payment balance in terms of the game media to become equal to or less than the set value, each time a game is played.

[0148] According to the configuration (62), the payment balance in terms of the game media is counted accumulatively each time a game is played. Moreover, it is determined whether or not the payment balance in terms of the game media is equal to or less than the set value, and when it is determined that the payment balance in terms of the game media is equal to or less than the set value, the second special game state is generated. Further, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a counting value which shows the number of game media required for causing the payment balance in terms of the game media to become equal to or less than the set value is notified, each time a game is played, by outputting an image or a sound to the output means. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0149] The present invention provides the following configuration:

(63) The gaming machine according to the configurations (60) or (62), further comprising:

means for setting the payment balance in terms of the game media to a predetermined number when the first special game state is generated.

[0150] According to the configuration (63), since the payment balance in terms of the game media is set to a predetermined value (for example, "0") when the first special game state is generated, it can be prevented for a player who has obtained a profit by the generated first special game state from obtaining an excessive return.

[0151] The present invention provides the following configuration:

(64) The gaming machine according to the configuration (63), wherein
the means for generating the second special game state generates a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, and that is selected from plural candidate values stepwise determined in advance; and
the means for notifying the counting value notifies information about the stage of the set value related to the concerned notification, by including the information in the content of notification.

[0152] According to the configuration (64), when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, the second special game state that is a game state advantageous to a player and in which a determined degree of advantage corresponding to the set value is generated. After the payment balance in terms of the game media has reached a set value for preliminary announcement, information about the stage of the set value related to the concerned notification (for example, information indicating that the stage of the set value related to the notification is a stage based on a set value of "-500") is notified together with the counting value, each time a game is played, by including the information in the content of notification.

Further, when the first special game state is generated, the payment balance in terms of the game media is set to a predetermined number (for example, "0"). Accordingly, when it is notified by countdown that the second special game state to be generated is low in the degree of advantage corresponding to the set value, even if a first special game state is generated before the second special game state, the player will hardly be exasperated. However, when the first special game state is generated before the second special game state at the time when it is notified by countdown that the second special game state to be generated is high in the degree of advantage corresponding to the set value, this will significantly exasperate the player since the countdown will be restarted. Thus, it is possible to induce changeful psychological states.

[0153] The present invention provides the following configuration:

(65) The gaming machine according to the configuration (63), wherein
the means for generating the second special game state generates a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, and that is selected from plural candidate values stepwise determined in advance; and
the means for notifying the counting value notifies, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, and which the predetermined value is larger with smaller the set value, a counting value each time a game is played.

[0154] According to the configuration (65), for example, when the second special game state to be generated is high in the degree of advantage, the countdown for the notifying thereof is started at an early stage, thereby causing the player to be amused by the countdown for a longer time until the second special game state which is high in the degree of advantage is generated. For example, the player can wish that the first special game state will not be generated.

[0155] The present invention provides the following configuration:

(66) The gaming machine according to any of the configurations (60) to (62),
wherein
the means for generating the second special game state generates, when the payment balance in terms of the game media reaches a set value that is an object of comparison with the payment balance in terms of the game media, and that is selected from plural candidate values stepwise determined in advance, a second special game state that is a game state advantageous to a player, and in which a larger degree of advantage is determined with the payment balance in terms of the game media reaching a smaller set value.

[0156] According to the configuration (66), since a larger profit can be made in the second special game state with a lower payment balance in terms of the game media, a profit supplementing a loss of a player can be given

to the player in the second special game state. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0157] The present invention provides the following configuration:

(67) The gaming machine according to any of the configurations (60) to (62), wherein reception means that can accept for one game an insertion of game media up to a predetermined upper limit value is provided, and the means for generating the second special game state generates a second special game state in a case where the number of inserted game media for the game played is at the upper limit value when the payment balance in terms of the game media is equal to or less than the set value.

[0158] According to the configuration (67), a player can be urged to insert the game media up to the upper limit, thereby enabling increase in profit in a facility such as a casino.

[0159] The present invention provides the following configuration:

(68) A control device connected with plural gaming machines through a communication line comprising:

means for receiving a payment balance in terms of the game media in a game played by a player together with identification information of the gaming machine from the gaming machine through the communication line, each time a game is played;

means for accumulatively counting the payment balance in terms of the game media, based on the identification information of the gaming machine and the payment balance in terms of the game media in a game played by the player;

means for receiving from the gaming machine through the communication line, when the first special game state that is a game state advantageous to a player is generated, a reset signal which shows that the first special game state has been generated;

means for setting the payment balance in terms of the game media to a predetermined number when receiving the reset signal;

means for transmitting, when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, a command signal for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined; and

means for transmitting a preliminary announcement command signal so that the gaming machine can notify, after a payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a counting value which shows the required number of game media for the payment balance in terms of the game media to become equal to or less than the set value, each time a game is played.

[0160] According to the configuration (68), the payment balance in terms of the game media in a game played by a player together with identification information of the gaming machine is received from the gaming machine through the communication line, each time a game is played, and the payment balance in terms of the game media is accumulatively counted, based on the identification information of the gaming machine and the payment balance in terms of the game media in a game played by the player. Further, when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, transmitted is a command signal for generating the second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined, and the second special game state is thereafter generated in the gaming machine. Hence, even if the first special game state is not generated for a long period leading to the spending of many of the game media, the second special game state is generated as long as the game is played such that the payment balance in terms of the game media becomes equal to or less than the set value and thus a player can make profit for playing the game.

[0161] Further, after the payment balance in terms of the game media has reached a set value for preliminary announcement (for example, "-450") which is greater by a predetermined value (for example, "50") than the set value (for example, "-500"), a preliminary announcement command signal for causing the gaming machine to provide a notification of a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value is transmitted each time a game is played, and the gaming machine thereafter provides a notification based on the transmitted preliminary announcement command signal. Therefore, a player can recognize how many more game media are required to be consumed for generating the second special game state, by a countdown being performed for each single game (1 game). As a result, an impression can be made on the player that a return is carried out as a result of playing the game such that the payment balance in terms of the game media is equal to or less than the set value, and it can also prevent a situation that the player cannot

get any return from occurring.

[0162] Further, when the first special game state which is a game state advantageous to the player has been generated, on receiving from the gaming machine through the communication line a reset signal showing that the first special game state has been generated, since the payment balance in terms of the game media is set to a predetermined value (for example, "0"), it can be prevented for a player who has obtained a profit by the generated first special game state from obtaining an excessive return.

[0163] The present invention provides the following configuration:

(69) A gaming machine equipped with a processing device, a storage device and an image or sound output device,
wherein
the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;
a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;
a processing reading from the storage device a program for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state when the payment balance in terms of the game media counted accumulatively each time a game is played becomes equal to or less than a set value that is an obj ect of comparison with the payment balance in terms of the game media, and executing the program; and
a processing reading from the storage device, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, notification data for notifying a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value, and outputting an image or a sound to the output device based on the notification data, each time a game is played.

[0164] According to the configuration (69), the second special game state is generated when the payment balance in terms of the game media becomes equal to or less than a set value (for example, "-500") that is an object of comparison with the number of games. Further, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, the gaming machine outputs an image or a sound to the output device, based on notification data for notifying a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value, each time a game is played. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0165] The present invention provides the following configuration:

(70) A gaming machine equipped with a processing device, a storage device and an image or sound output device, and connected through a communication line to a control device which counts the payment balance in terms of the game media accumulatively for every gaming machine of plural gaming machines,
wherein
the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;
a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;
a processing transmitting the number of inserted game media and the number of payout game media in the game played by a player together with an identification information on the gaming machine which are stored in the storage device to the control device through the communication line each time a game is played;
a processing receiving a command signal transmitted from the control device when the payment balance in terms of the game media counted accumulatively by the control device based on the identification information on the gaming machine, the number of inserted game media and the number of payment media in the game played by a player reaches a value equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media;
a processing reading from the storage device, based on the command signal, a program for generating a second special game state that is

a game state advantageous to a player and which is the same type as, or a different type from the first special game state, and executing the program;

a processing receiving, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a preliminary announcement command signal transmitted from the control device each time a game is played; and

a processing reading from the storage device, based on the preliminary announcement command signal, notification data for notifying a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value, and outputting an image or a sound to the output device based on the notification data.

[0166] According to the configuration (70), the second special game state is generated by the receiving of a command signal transmitted from the control device when the payment balance in terms of the game media counted by the control device becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media. Further, when a preliminary announcement command signal which is transmitted from the control device is received each time a game is played, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value is notified by outputting an image or a sound to the output means. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0167] The present invention provides the following configuration:

(71) A gaming machine equipped with a processing device, a storage device and an image or sound output device,

wherein

the processing device executes:

a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in the storage device;

a processing reading from the storage device a program for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination, and executing the program;

a processing counting a payment balance in terms of the game media accumulatively each time a game is played;

a processing determining whether or not the payment balance in terms of the game media has become equal to or less than a set value that is an obj ect of comparison with the payment balance in terms of the game media;

a processing reading from the storage device, when the payment balance in terms of the game media is determined to have become equal to or less than the set value, a program for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state, and executing the program; and

a processing reading from the storage device, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, notification data for notifying a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value, and outputting an image or a sound to the output device based on the notification data, each time a game is played.

[0168] According to the configuration (71), the payment balance of the game media is accumulatively counted each time a game is played. Moreover, it is determinedwhether or not the payment balance in terms of the game media is equal to or less than the set value and if it is determined that the payment balance in terms of the game media is equal to or less than the set value, the second special game state is generated. Further, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a counting value which shows the number of game media required for causing the payment balance in terms of the game media to become equal to or less than the set value is notified, each time a game is played, by outputting an image or a sound to the output means. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0169] The present invention provides the following configuration:

(72) The gaming machine according to the configurations (69) or (71),

wherein
the processing device executes a processing setting the payment balance in terms of the game media to a predetermined number when the first special game state is generated.

[0170] According to the configuration (72), since the payment balance in terms of the game media is set to a predetermined value when the first special game state is generated, it can be prevented for a player who has obtained a profit by the generated first special game state from obtaining an excessive return.

[0171] The present invention provides the following configuration:

(73) The gaming machine according the configuration (72),
wherein
the processing device executes:

a processing reading from the storage device, when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, and that is selected from plural candidate values stepwise determined in advance, a program for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined, and executing the program; and
a processing reading from the storage device notification data for notifying information about the stage of the set value related to the concerned notification by including the information in the content of notification, and outputting an image or a sound to the output means based on the notification data.

[0172] According to the configuration (73), when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, the second special game state that is a game state advantageous to a player and in which a determined degree of advantage corresponding to the set value is generated. After the payment balance in terms of the game media has reached a set value for preliminary announcement, information about the stage of the set value related to the concerned notification (for example, information indicating that the stage of the set value related to the notification is a stage based on a set value of "-500") is notified together with the counting value, each time a game is played, by including the information in the content of notification.
Further, when the first special game state is generated, the number of games is set to a predetermined number (for example, "0") . Accordingly, when it is notified by countdown that the second special game state to be generated is low in the degree of advantage corresponding to the set value, even if a first special game state is generated before the second special game state, the player will hardly be exasperated. However, when the first special game state is generated before the second special game state at the time when it is notified by countdown that the second special game state to be generated is high in the degree of advantage corresponding to the set value, this will significantly exasperate the player since the countdown will be restarted. Thus, it is possible to induce changeful psychological states.

[0173] The present invention provides the following configuration:

(74) The gaming machine according the configuration (72),
wherein
the processing device executes:

a processing reading from the storage device, when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, and that is selected from plural candidate values stepwise determined in advance, a program for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined, and executing the program; and
a processing reading from the storage device, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, and which the predetermined value is larger with smaller the set value, notification data for notifying a counting value, and outputting an image or a sound to the output device based on the notification data, each time a game is played.

[0174] According to the configuration (74), for example, when the second special game state to be generated is high in the degree of advantage, the countdown for the notifying thereof is started at an early stage, thereby causing the player to be amused by the countdown for a longer time until the second special game state which is high in the degree of advantage is generated. For example, the player can wish that the first special game state will not be generated.

[0175] The present invention provides the following configuration:

(75) The gaming machine according to any of the configurations (69) to (71),

wherein
the processing device executes a program for generating, when the payment balance in terms of the game media reaches a set value that is an object of comparison with the payment balance in terms of the game media, and that is selected from plural candidate values stepwise determined in advance, a second special game state that is a game state advantageous to a player, and in which a larger degree of advantage is determined with the payment balance in terms of the game media reaching a smaller set value.

[0176] According to the configuration (75), since a larger profit can be made in the second special game state with a lower payment balance in terms of the game media, a profit supplementing a loss of a player can be given to the player in the second special game state. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0177] The present invention provides the following configuration:

(76) The gaming machine according to any of the configurations (69) to (71), wherein the processing device executes a program for generating the second special game state when the payment balance in terms of the game media is equal to or less than the set value in a case where the number of inserted game media for a game played by the player is the upper limit value of the number of inserted game media to be inserted for one game.

[0178] According to the configuration (76), a player can be urged to insert game media up to the upper limit, thereby enabling increase in profit in a facility such as a casino.

[0179] The present invention provides the following configuration:

(77) A control device provided with a processing device and connected with plural gaming machines through a communication line, wherein
the processing device executes:

a processing for receiving a payment balance in terms of the game media in a game played by a player together with identification information of the gaming machine from the gaming machine through the communication line, each time a game is played;
a processing for accumulatively counting the payment balance in terms of the game media, based on the identification information of the gaming machine and the payment balance in terms of the game media in a game played by the player;
a processing for receiving from the gaming machine through the communication line, when the first special game state that is a game state advantageous to a player is generated, a reset signal which shows that the first special game state has been generated;
a processing for setting the payment balance in terms of the game media to a predetermined number when receiving the reset signal;
a processing for transmitting, when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, a command signal for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined; and
a processing for transmitting a preliminary announcement command signal so that the gaming machine can notify, after a payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value, each time a game is played.

[0180] According to the configuration (77), the payment balance in terms of the game media in a game played by a player together with identification information of the gaming machine is received from the gaming machine through the communication line, each time a game is played, and the payment balance in terms of the gamemedia is accumulatively counted, basedonthe identification information of the gaming machine and the payment balance in terms of the game media in a game played by the player. Further, when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of the game media, transmitted is a command signal for generating the second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to the set value is determined, and the second special game state is thereafter generated in the gaming machine. Hence, even if the first special game state is not generated for a long period leading to the spending of many of the game media, the second special game state is generated as long as the game is played such that the payment balance in terms of the game media becomes equal to or less than the set value and thus a player can make profit for playing the game.

[0181] Further, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined val-

ue than the set value, a preliminary announcement command signal for causing the gaming machine to provide a notification of a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value is transmitted each time a game is played, and the gaming machine thereafter provides a notification based on the transmitted preliminary announcement command signal.
Therefore, a player can recognize how many more game media are required to be consumed for generating the second special game state, by a countdown being performed for each single game (1 game). As a result, an impression can be made on the player that a return is carried out as a result of playing the game such that the payment balance in terms of the game media is equal to or less than the set value, and it can also prevent a situation that the player cannot get any return from occurring.

[0182] Further, when the first special game state which is a game state advantageous to the player has been generated, on receiving from the gaming machine through the communication line a reset signal showing that the first special game state has been generated, since the number of games is set to a predetermined value (for example, "0"), it can be prevented for a player who has obtained a profit by the generated first special game state from obtaining an excessive return.

[0183] The present invention provides the following configuration:

(78) A gaming machine comprising:

means for giving a profit to a player according to the number of games played by the player; and
means for notifying to the player that the profits according to the number of games will be given, by performing a countdown with an image or a sound, each time a game is played.

[0184] According to the configuration (78), a profit according to the number of games is given. Further, provided to the player, by performing a countdown with an image or a sound each time a game is played, is a notification that the profits according to the number of games will be given. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0185] The present invention provides the following configuration:

(79) A gaming machine comprising:

means for giving a profit to a player according to the payment balance in terms of the game media of the player; and
means for notifying to the player that the profits according to the payment balance in terms of the game media will be given, by performing a countdown with an image or a sound, each time a game is played.

[0186] According to the configuration (79), a profit according to the payment balance in terms of the game media is given. Further, provided to the player, by performing a countdown with an image or a sound each time a game is played, is a notification that the profits according to payment balance in terms of the game media will be given. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0187] The present invention provides the following configuration:

(80) A game control method comprising:

a step for giving a profit to a player according to the number of games played by the player; and
a step for notifying to the player that the profits according to the number of games will be given, by performing a countdown with an image or a sound, each time a game is played.

[0188] According to the configuration (80), a profit according to the number of games is given. Further, provided to the player, by performing a countdown with an image or a sound each time a game is played, is a notification that the profits according to the number of games will be given. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, buildingup distrust thereto, or losing interest in or a concern on the game.

[0189] The present invention provides the following configuration:

(81) A game control method comprising:

a step for giving a profit to a player according to the payment balance in terms of the game media of the player; and
a step for notifying to the player that the profits according to the payment balance in terms of the game media will be given, by performing a countdown with an image or a sound, each time a game is played.

[0190] According to the configuration (81), a profit according to the payment balance in terms of the game media is given. Further, provided to the player, by performing a countdown with an image or a sound each time a game is played, is a notification that the profits according to payment balance in terms of the game media will be given. Therefore, it can be prevented for a player who

has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0191] The present invention provides the following configuration:

(82) A game system equipped with a gaming machine and a control device, wherein
the control device includes:

means for transmitting a signal to the gaming machine according to the number of games played in the gaming machine by a player,
and the gaming machine includes:

means for giving profit according to the number of games based on the signal received from the control device; and
means for notifying to the player that the profits according to the number of games will be given, by performing a countdown with an image or a sound, each time a game is played.

[0192] According to the configuration (82), a profit according to the number of games is given. Further, provided to the player, by performing a countdown with an image or a sound each time a game is played, is a notification that the profits according to the number of games will be given. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, buildingup distrust thereto, or losing interest in or a concern on the game.

[0193] The present invention provides the following configuration:

(83) A game system equipped with a gaming machine and a control device,
wherein
the control device includes:

means for transmitting a signal to the gaming machine according to a payment balance in terms of the game media of a player in the gaming machine, and
the gaming machine includes:

means for giving profit according to the payment balance in terms of the game media based on the signal received from the control device; and
means for notifying to the player that the profits according to the payment balance in terms of the game media will be given, by performing a countdown with an image or a sound, each time a game is played.

[0194] According to the configuration (83), a profit according to the payment balance in terms of the game media is given. Further, provided to the player, by performing a countdown with an image or a sound each time a game is played, is a notification that the profits according to payment balance in terms of the game media will be given. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

EFFECTS OF THE INVENTION

[0195] According to the present invention, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

BEST MODE FOR CARRYING OUT THE INVENTION

[First embodiment]

[0196] The first embodiment of the present invention will be described by making reference to the drawings. Fig. 1 is a schematic diagram showing the entire construction of a game system according to the first embodiment of the present invention.
A game system 100 includes: plural gaming machines 10; and a control device 200 connected to the gaming machines 10 through a predetermined communication line 101. Such a game system 100 may be constructed in one recreation facility capable of playing various kinds of games such as a bar, a casino and the like, or between plural recreation facilities. When the game system is constructed in one recreation facility, the game system 100 may be constructed on each floor or section of the recreation facility. The communication line 101 is not particularly limited, and may be wired or wireless, and either a dedicated line or a switched line can be used.

[0197] In the embodiment, the gaming machine 10 is a slot machine. In the present invention, however, a gaming machine is not limited to a slot machine, and for example, a so-called single gaming machine such as a video slot machine, a video card gaming machine and the like may be adopted, and a so-called mass game (multi-terminal gaming machine) such as a racing game, a bingo game, a public lottery and the like, which is a game that takes a predetermined time for a result to be displayed, may also be adopted.

[0198] In the gaming machine 10, a coin, a note or an electronic valuable information corresponding thereto is used as a game media. In the present invention, however, the game media is not particularly limited, and for example, a medal, a token, an electronic money and a ticket can be used. The ticket is not particularly limited and may include, for example, a ticket with a bar code as described later, and of the like tickets.

[0199] The control device 200 controls plural gaming

machines 10. Especially, in the present embodiment, the control device 200 controls a transition to a return mode in each of the gaming machines 10. The return mode corresponds to the second special game state in the present invention and many coins are paid out in the return mode. The control device 200 may be a device which controls the return rate by controlling the transition to the return mode. In such a construction, the control device 200 may be a device which controls the return rates of each of the gaming machines 10 individually, or a device which controls the return rate across all gaming machines 10 collectively.

[0200] In the present embodiment, the control device 200 controls preliminary announcements of the transition to return mode in each of the gaming machines 10. In the present invention, a preliminary announcement is not configured to announce that the game mode will necessarily shift to the return mode as announced by the preliminary announcement, but that there is a possibility of a transition to the return mode. In the present invention, a gamemay shift to the returnmode without providing a preliminary announcement announcing that a transition to the return mode will be made. In the present embodiment, described is a case where, when a preliminary announcement is provided, the game mode will necessarily shift to the return mode as announced by the preliminary announcement.

[0201] The control device 200 may further function as a so-called hole server which is installed in a recreation facility having plural gaming machines 10, or as a server which collectively controls plural recreation facilities. Moreover, every gaming machine 10 has its own identification number, and the source of data transmitted to the control device 200 from each of the gaming machines 10 is distinguished therein by their identification numbers. The identification number is also used to designate a transmission destination of data transmitted to the gaming machine 10 from the control device 200.

[0202] The identification number of a gaming machine corresponds to the identification information on a gaming machine of the present invention. The identification information on a gaming machine of the present invention is not particularly limited, and examples thereof may include: a letter, a symbol, a figure, a combination thereof, and the like.

[0203] Fig. 2 is a perspective view schematically showing a gaming machine according to the first embodiment of the present invention.

The gaming machine 10 includes: a cabinet 11; a top box 12 placed on the upper side of the cabinet 11; and a main door 13 provided at the front face of the cabinet 11. Inside the cabinet 11, three reels 14 (14L, 14C and 14R) are rotatively installed. Twenty-two designs (hereinafter, also referred to as symbols) are depicted as symbol sequences on the outer circumferential surface of each of the reels 14.

[0204] A lower image display panel 16 is provided over the reels 14 in the main door 13. The lower image display panel 16 is provided with a transparent liquid crystal panel, and various kinds of information, representation image and the like associated with the game are displayed while the game is played. The lower image display panel 16 is an output device for an image and functions also as output means capable of outputting an image.

A number-of-credits display section 31 and a number-of-payouts display section 32 are formed on the lower image display panel 16. The number of credited coins is displayed as an image on the number-of-credits display section 31. The number of coins to be paid out is shown as an image on the number-of-payouts display section 32, when a combination of symbols stop displayed on a winning line L is a predetermined combination.

[0205] Three display windows 15 (15L, 15C and 15R), the back faces of which are visually recognizable, are formed on the lower image display panel 16, and through each of the display windows 15, three of the symbols depicted on the outer circumferential surface of each of the reels 14 are displayed. One winning line L traversing horizontally the three display windows 15 is formed on the lower image display panel 16. The winning line L defines a combination of symbols. When a combination of symbols stop displayed on the winning line L is a predetermined combination, the number of coins corresponding to the combination and the number of inserted coins (the number of BETs) is paid out.

[0206] Moreover, in the present invention, for example, when: plural winning lines L which traverse horizontally or obliquely the three display windows 15 are formed; the winning lines L, the number thereof which becomes effective set to be dependent on the number of coin-in, become effective; and a combination of symbols stop displayed on the winning line L which became effective is a predetermined combination, the number of coins corresponding to the stop-displayed combination may be paid out.

[0207] A touch panel 69, which is not shown in the figure, is provided on the front face of the lower image display panel 16 and the player can input various kinds of commands by operating the touch panel 69.

[0208] Provided below the lower image display panel 16 are: a control panel 20 constituting of plural buttons 23 to 27 which are input by the player, commands associated with progress of the game; a coin receiving slot 21 as a reception means accepting coins into the cabinet 11; and a note identifier 22.

[0209] The control panel 20 is provided with: a spin button 23; a change button 24; a CASHOUT button 25; a 1-BET button 26; and a maximum BET button 27. The spin button 23 is used for inputting a command to start the rotating of the reels 14. The change button 24 is used in a case where a player requests an attendant of a recreation facility to exchange money. The CASHOUT button 25 is used for inputting a command to pay out credited coins to a coin tray 18.

[0210] The 1-BET button 26 is used for inputting a command to bet one coin of the credited coins. The maximum

BET button 27 is used for inputting a command to bet the maximum number of coins that can be bet on one game (50 coins in the present embodiment) of the credited coins.

[0211] In the present invention, insertion of a game media means that a game media is bet on a game. For example, when coins inserted into the coin receiving slot 21 are directly bet on a game, insertion of coins into the coin receiving slot 21 corresponds to insertion of a game media. However, when coins inserted into the coin receiving slot 21 are temporarily credited, and the credited coins are bet on a game by operating the 1-BET button 26 or the maximum BET button 27, as in the present embodiment, the bet of the credited coins on the game corresponds to insertion of a game media.

[0212] The note identifier 22 is used not only for discriminating a false note from a true note but also for accepting the true note into the cabinet 11. The note identifier 22 may be configured such that a ticket 39 with a bar code which will be described later can be read. A belly glass 34 on which characters and the like of the gaming machine 10 are depicted is provided on the front face of the lower portion of the main door 13, that is, below the control panel 20.

[0213] An upper image display panel 33 is provided at the front face of a top box 12. The upper image display panel 33 is provided with a liquid crystal panel and, for example, an image to introduce the contents of the game or explain a game rule is displayed thereto. Although the lower image display panel 16 is an image output device and functions also as the output means of an image in the present embodiment, in the present invention, the upper image display panel 33 may also be an image output device, which functions also as the output means of an image.

[0214] A speaker 29 is provided in the top box 12. The speaker 29 is a sound output device and functions as output means capable of outputting a sound. A ticket printer 35, a card reader 36, a data display 37 and a key pad 38 are provided beneath the upper image display panel 33. The ticket printer 35 prints on a ticket a bar code in which data such as the number of credits, date, time, identification number of the gaming machine 10 and of the like data are encoded, and outputs the ticket 39 with a bar code. A player can make the ticket 39 with a bar code to be read by a second gaming machine and play a game in the second gaming machine, or exchange in a predetermined place (for example, at a cashier in the casino) of a recreation facility the ticket 39 with a bar code to notes.

[0215] The card reader 36 is used for reading data from a smart card and writing data onto a smart card. The smart card is a card to be carried by a player, and for example, data to identify a player and data concerning a history of a game played by a player are stored thereon. Data corresponding to a coin, a note or a credit may also be storedon the smart card. As an alternative of a smart card, a magnetic stripe card may be adopted. The data display 37 is a fluorescent display and the like, and it is used, for example, to display data read by the card reader 36 and data inputted by a player from the key pad 38. The key pad 38 is used for inputting a command or data to issue a ticket and the like.

[0216] Fig. 3 is a schematic view showing the symbol sequence depicted on the outer circumferential surface of each reel.

Twenty two symbols each are depicted on the outer circumferential surface of the left reel 14L, the middle reel 14 C and the right reel 14 R. A sequence of the symbols depicted on the outer circumferential surface of each of the reels 14 is different from one another. The sequences of the symbols are combinations of the following symbols: "JACKPOT 7", "BLUE 7", "BELL", "CHERRY", "STRAWBERRY", "PLUM", "ORANGE" and "APPLE".

[0217] When the same three symbols of one of the symbols of "JACKPOT 7", "BLUE 7", "BELL", "CHERRY", "STRAWBERRY", "PLUM" and "ORANGE" are stop displayed on the winning line L, a predetermined number of credits is added to the account of the player as a credit owned by the player (see Fig. 14). As for "CHERRY" and "ORANGE", even if one or two of one of the symbols are stop displayed, a predetermined number of credits are added to the account of the player as credits owned by the player according to the number of the symbols stop displayed (see Fig. 14).

[0218] The symbol sequence "APPLE" is a bonus game trigger (a symbol to transit to a bonus game). When three of the "APPLE" are stop displayed on the winning line L, a game state shifts to a bonus game. The bonus game corresponds to the first special game state. In the present embodiment, a bonus game is a free game (a game in which a predetermined number thereof can be played without inserting coins for BET).

[0219] In the present invention, the first special game state is not particularly limited as far as it is a game state advantageous to the player. A game state that is advantageous to the player is not particularly limited as far as it is more advantageous than an ordinary game state (a game state other than the first special game state or the second special game state) and examples thereof include: a state where more of the game media can be earned than in an ordinary game state, a state where the game media can be earned on a probability higher than in an ordinary game state, a state where the number of the game media spent by a player is less than in an ordinary game state and of the like state. More specifically, examples of the first special game state include a free game, a second game, a mystery bonus and the like.

[0220] The sequence of symbols depicted on each of the reels 14 are, when the spin button 23 is pressed after the 1-BET button or the maximum BET button 27 is pressed to start a game, scroll displayed by scrolling downwards in the display windows 15 during the rotating of the reels 14, and after a predetermined time elapses, the rotating of the reels 14 comes to a stop, and thus the sequence of symbols are stop displayed in the display

windows 15. Various kinds of winning combinations (see Fig. 14) are predetermined based on combinations of symbols and when a combination of symbols corresponding to a winning combination stops on the winning line L, the number of payout coins corresponding to the winning combination is added to credits owned by the player. When a bonus game trigger has been established, a bonus game is generated.

[0221] When a return mode flag which will be described later has been set to the state "ON", a game state shifts to a return mode after the symbols are stop displayed as described above. When a bonus game has been generated, the game state shifts to the return mode after the bonus game is over. The return mode corresponds to the second special game state. In the present embodiment, if a game state shifts to the return mode, a predeterminedpayout number of coins are paidout. In the present embodiment, the payout number of coins in the return mode is set according to a set value described later.

[0222] In the present invention, the second special game state is not particularly limited as far as it is a game state advantageous to the player. Examples of such a game state include: a state where more of the game media can be earned than in an ordinary game state, a state where the game media can be earned on a probability higher than in an ordinary game state, a state where the number of the game media spent by a player is less than in an ordinary game state and of the like state. More specifically, examples of the second game state include a free game, a second game, a mystery bonus game and the like.

[0223] In the present invention, the second special game state may be a game state of the same kind as the first special game state, or a game state of a kind different from the first game state as in the present embodiment. When the second special game state is made to be a game state different from the first special game state, games can be high in versatility, which can enhance a sense of expectation for the second special game state. Moreover, a game state of the second special game state may be an exclusive game state generated only when the second special game state occurs. In such a situation, a sense of expectation for the second special game state can be further enhanced.

[0224] Fig. 4 is a block diagram showing the internal construction of the gaming machine shown in Fig. 2.

A gaming board 50 includes: CPU (Central Processing Unit) 51, ROM 55 and boot ROM 52 which are interconnected to one another by an internal bus; a card slot 53S which accepts a memory card 53; an IC socket 54S which accepts GAL (Generic Array Logic) 54.

[0225] The memory card 53 is constituted of non-volatile memories such as CompactFlash (registered trademark) and stores a game program and a game system program. The game program contains a lottery program. The lottery program is a program for determining symbols (code Nos. corresponding to the symbols) on each of the reels 14 which are to be stop displayed on the winning line L. The lottery program contains one or more of symbol weighting determination data, each corresponding to respective plural kinds of payout rates (for example, 80%, 84% and 88%). The symbol weighting determination data is data showing a correspondence relationship between a code No. (see Fig. 3) of each symbol and one or plural random number values from a predetermined numerical value range (0 to 255), for each of the three reels 14. A payout rate is determined based on data for setting a payout rate outputted from the GAL 54, and the lottery is executed based on symbol weighting determination data corresponding to the payout rate.

[0226] The card slot 53S is configured so that the memory card 53 can be inserted therein or drawn out therefrom, and connected to a mother board 40 through IDE bus. Therefore, a kind or contents of a game played in the gaming machine 10 can be changed by drawing out the memory card 53 from the card slot 53S, writing a different game program and game system program thereon, and inserting the memory card 53 into the card slot 53S thereafter. Moreover, a kind or contents of a game played in the gaming machine 10 can also be changed by changing a memory card 53 on which a game program and a game system program are stored to a different memory card 53 on which a different game program and game system program are stored. The game program includes a program related to progress in a game; a program for generating the first special game state; a program for generating the second special game state; and a program for providing a preliminary announcement. The program for providing a preliminary announcement includes a program for determining whether or not a preliminary announcement is to be provided. The game program further includes: image data and sound data output while a game is played; image data and sound data used as notification data; and image data and sound data used as preliminary announcement data.

[0227] GAL 54 is one kind of PLD having an OR fixed array structure. GAL 54 is equipped with a plurality of an input port and an output port and when a predetermined data is inputted to the input port, data corresponding to the input data is outputted from the output port. The data outputted from the output port is the above-mentioned data for setting a payout rate.

The IC socket 54S is configured such that GAL 54 can be mounted thereto or demounted therefrom, and connected to the mother board 40 through PCI bus. Therefore, data for setting a payout rate outputted from GAL 54 can be changed by drawing out GAL 54 from the IC socket 54S, rewriting a program stored on GAL 54, mounting GAL 54 to the IC socket 54S thereafter. Moreover, data for setting a payout rate can also be changed by changing GAL 54 to a different GAL 54.

[0228] CPU 51, ROM 55 and boot ROM 52 interconnected to each other by the internal bus are connected to the mother board 40 by PCI bus. The PCI bus not only conducts signal transmission between the mother board

40 and the gaming board 50, but also supplies electric power to the gaming board 50 from the mother board 40. ROM 55 stores country identification information and an authentication program therein. Boot ROM 52 stores a preliminary authentication program, a program for CPU 51 to activate the preliminary authentication program (a boot code) and the like therein.

[0229] The authentication program is a program to authenticate a game program and a game system program (an alteration check program). The authentication program is stated along a procedure for confirmation and certification that the game program and the game system program that are objects of an authentication capture processing are not altered, that is, a procedure for conducting authentication of the game program and the game system program (an authentication procedure). The preliminary authentication program is a program for authenticating the above-mentioned authentication program. The preliminary authentication program is stated along a procedure for certification that an authentication program that is an object of an authentication processing is not altered, that is, a procedure for authenticating the authentication program (an authentication procedure).

[0230] The mother board 40 is constructed with a general-purpose mother board commercially available (a printed circuit board on which basic parts of a personal computer are mounted) and includes: a main CPU 41; ROM (Read Only Memory) 42; RAM (Random Access Memory) 43 and a communication interface 44. The main CPU 41 is the processing device of the present invention.

[0231] ROM 42 is constituted of a memory device such as a flash memory and stores thereon a program such as BIOS (Basic Input/Output System) executed by the main CPU 41 and permanent data. When BIOS is executed by the main CPU 41, not only is an initialization processing for predetermined peripheral devices conducted, but a capture processing for the game program and the game system program stored on the memory card 53 is also started via the gaming board 50. In the present invention, contents of ROM 42 may be rewritable or not rewritable.

[0232] RAM 43 stores data and a programused at the time of operation of the main CPU 41. RAM 43 can store the authentication program read through the gaming board 50 together with the game program and the game system program. RAM 43 is the storage device of the present invention.

[0233] RAM 43 is provided with a storage region for a return mode flag. The return mode flag is a flag to be referred to when a game state is to be selected whether it should be shifted to a return mode corresponding to the second special game state or not. The storage region of the returnmode flag is constituted of a storage region with, for example, a predetermined number of bits and the return mode flag is turned "ON" or "OFF" according to storage contents in the storage region. If the return mode flag is set to the state "ON", the game state thereafter shifts to the return mode without fail. RAM 43 further stores data on the number of credits, the number of coin-in or coin-out for one game, and the like.

[0234] The communication interface 44 is used to communicate with the control device 200 through the communication line 101. The main CPU 41 transmits the number of coin-in and the number of coin-out together with the gaming machine identification number of the gaming machine 10 to the control device 200 each time a game is played. The number of games, an accumulative number of coin-in and an accumulative number of coin-out is made to be associated with each gaming machine identification number, and stored in the control device 200. In the control device 200, a set value that is an object of comparison with the number of games is preliminary determined with respect to each gaming machine identification number, and when the number of games of one gaming machine 10 reaches a set value determined for that gaming machine 10, a return command signal is transmitted from the control device 200. When the main CPU 41 receives the return command signal through the communication interface 44, the return mode flag is set to the state "ON".

Further, in the control device 200, after the number of games played in a certain gaming machine 10 has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, the control device 200 transmits a preliminary announcement command signal to the gaming machine 10. On receiving the preliminary announcement command signal through the communication interface 44, the main CPU 41 executes processing related to preliminary announcements, such as processing for reading the program for determining whether or not a preliminary announcement of transition to the return mode is to be provided, and executing the program; and processing for outputting an image or sound related to preliminary announcements.

[0235] Both a body PCB (Printed Circuit Board) 60 and a door PCB 80 which will be described later are connected to the mother board 40 by USB. A power supply unit 45 is also connected to the mother board 40. When electric power is supplied from the power supply unit 45 to the mother board 40, not only is the main CPU 41 of the mother board 40 activated, but CPU 51 is also activated from electric power supplied through the PCI bus to the gaming board 50.

[0236] Equipment and devices which generate input signals to be inputted to the main CPU 41, and equipment and devices of which operations are controlled by a control signal outputted from the main CPU 41 are connected to the body PCB 60 and the door PCB 80. The main CPU 41 executes a game program and a game system program stored in RAM 43 based on an input signal inputted to the main CPU 41, and thereby performs a predetermined computational processing, stores results of thereof into RAM 43 and transmits a control signal to each equipment and device as a control processing for each of the equipment and devices.

[0237] A lamp 30, a sub CPU 61, a hopper 66, a coin detecting section 67, a graphic board 68, a speaker 29 as an output device, a touch panel 69, a note identifier 22, a ticket printer 35, a card reader 36, a key switch 38S and a data display 37 are connected to the body PCB 60. The lamp 30 is lit up in a predetermined pattern based on a control signal outputted from the main CPU 41.

[0238] The sub CPU 61 controls the rotation and stopping of the reels 14 (14L, 14C and 14R) . A motor driving circuit 62 equipped with FPGA (Field Programmable Gate array) 63 and a driver 64 is connected to the sub CPU 61. FPGA 63 is an electronic circuit such as LSI capable of programming and works as a control circuit of a stepping motor 70. The driver 64 works as an amplifier circuit of a pulse to be inputted to the stepping motor 70. The stepping motors 70 (70L, 70C and 70R) which rotate each of the reels 14 are connected to the motor driving circuit 62. The stepping motor 70 is a 1-2 phase excitation type stepping motor.

[0239] In the present invention, an excitation type of the stepping motor is not particularly limited, and for example, a motor of a 2 or 1 phase excitation type can be adopted. A DC motor may be adopted instead of a stepping motor. When a DC motor is adopted, a deviation counter, a D/A converter and a servo amplifier are sequentially connected to the sub CPU 61 in this order and the DC motor is connected to the servo amplifier. A rotational position of the DC motor is detected by a rotary encoder and a current rotational position of the DC motor is supplied as data from the rotary encoder to the deviation counter.

[0240] An index detecting circuit 65 and a position change detecting circuit 71 are connected to the sub CPU 61. The index detecting circuit 65 is used for detecting positions (indexes described later) of the rotating reels 14 and can also detect an out-of-order state of the reels 14. As for the control of the rotating and stopping of the reels 14, detailed description will be given later by making reference to the figures.

[0241] The position change detecting circuit 71 detects a change of stoppage positions of the reels 14 after the stopping of the rotating of the reels 14. The position change detecting circuit 71 detects the change of stoppage positions of the reels 14, for example, in a case where the stoppage position is changed by force by a player as if the combination of symbols was in a wining state, despite the fact that the combination of symbols is not actually in a wining state, and of the like cases. The position change detecting circuit 71 is configured to be capable of detecting the change of stoppage position of the reel 14 by, for example, detecting fins (not shown in the figure) attached with a predetermined space on the inner side of the reel 14.

[0242] The hopper 66 is installed in the cabinet 11 and pays out a predetermined number of coins from a coin payout exit 19 to a coin tray 18 based on a control signal outputted from the main CPU 41. A coin detecting section 67 is installed inside the coinpayout exit 19 and when detecting that a predetermined number of coins has been paid out from the coin payout exit 19, outputs an input signal to the main CPU 41.

[0243] The graphic board 68 controls, based on a control signal outputted from the main CPU 41, image displays on the upper image display panel 33 and the lower image display panel 16 as an output device. The number of credits stored in RAM 43 is displayed on the number-of-credits display section 31 of the lower image display panel 16. The number of coin-out is displayed on the number-of-payouts display section 31 of the lower image display panel 16.

The graphic board 68 is equipped with VDP (Video Display Processor) which generates image data based on a control signal outputted from the main CPU 41 and a video RAM which temporarily stores image data generated by VDP, and of the like equipments. Note that image data used in generating image data with VDP is read from the memory card 53 and contained in a game program stored in RAM 43.

[0244] The note identifier 22 not only discriminates a true note from a false note, but also accepts the true note into the cabinet 11. The note identifier 22, when accepting a true note, outputs an input signal to the main CPU 41 based on a face amount of the note. The main CPU 41 stores the number of credits corresponding to the amount of the note transmitted with the input signal into RAM 43.

[0245] The ticket printer 35, based on a control signal outputted from the main CPU 41, prints on a ticket a bar code obtained by encoding data such as the number of credits, date and time, the identification number of the gaming machine 10, and of the like data stored in RAM 43, and outputs the ticket 39 with a bar code.

The card reader 36 transmits to the main CPU 41 data read from the smart card and writes data onto the smart card based on a control signal from the main CPU 41. The key switch 38S is provided on the key pad 38, and when the key pad 38 is operated by a player, outputs a predetermined input signal to the main CPU 41. The data display 37 displays, based on a control signal outputted from the main CPU 41, data read by the card reader 36 and data inputted by a player through the key pad 38.

[0246] The control panel 20, a reverter 21S, a coin counter 21C and a cold cathode tube 81 are connected to the door PCB 80. The control panel 20 is provided with a spin switch 23S corresponding to the spin button 23, a change switch 24S corresponding to the change button 24, a CASHOUT switch 25S corresponding to the CASHOUT button 25, a 1-BET switch 26S corresponding to the 1-BET button 26, and a maximum BET switch 27S corresponding to the maximum BET button 27. When the buttons 23 to 27 are operated by a player, each of the switches 23S to 27S corresponding thereto outputs input signals to the main CPU 41.

[0247] The coin counter 21C is installed inside the coin receiving slot 21, and discriminates whether a coin inserted by a player into the coin receiving slot 21 is true or false. Coins other than the true ones are discharged

from the coin payout exit 19. The coin counter 21C also outputs an input signal to the main CPU 41 when a true coin is detected.

[0248] The reverter 21S operates based on a control signal outputted from the main CPU 41 and distributes coins recognized by the coin counter 21C as true coins into a cash box (not shown in the figure) or the hopper 66, which are disposed in the gaming machine 10. In other words, when the hopper 66 is filled with coins, true coins are distributed into the cashbox by the reverter 21S. On the other hand, when the hopper 66 is not filled with coins, true coins are distributed into the hopper 66. The cold cathode tube 81 works as a backlight installed on the back face sides of the lower image display panel 16 and the upper image display panel 33 and is lit up based on a control signal outputted from the main CPU 41.

[0249] Fig. 5 is a block diagram showing the internal construction of a control device according to the first embodiment of the present invention.

A control device 200 includes: CPU 201 as a processing device; ROM 202; RAM 203 as a temporary storage device; a communication interface 204; and a hard disc drive 205. The communication interface 204 is connected to the communication interface 44 of the gaming machine 10 through the communication line 101. ROM 202 stores a system program for controlling operations of the control device, a permanent data, and the like. RAM 203 temporarily stores data received from each of the gaming machines 10 and data such as results of the computational operation. Moreover, a game history of a gaming machine 10 is stored in the hard disc drive 205, by being associated with the gaming machine identification number of each of the gaming machines 10.

[0250] Fig. 6 is a figure schematically showing an example of correspondence table between a gaming machine identification number and a game history.

Each of the gaming machine identification numbers correspond to a game history based on the number of games, an accumulative number of coin-in, an accumulative number of coin-out, a payment balance in terms of the coins and a return rate of coin-out.

[0251] A set value that is an object of comparison with the number of games is determined for each of the gaming machine identification numbers. The set value is selected from plural candidate values "600", "1200" and "2400" stepwise determined in advance.

[0252] Further, a set value for preliminary announcement which is smaller by a predetermined value than the set value is defined for each of the gaming machine identification numbers. When the set value is "600", the set value for preliminary announcement is "550" which is smaller than the set value "600" by a predetermined value "50". When the set value is "1200", the set value for preliminary announcement is "1150" which is smaller than the set value "1200" by a predetermined value "50". When the set value is "2400", the set value for preliminary announcement is "2350" which is smaller than the set value "2400" by a predetermined value "50". As such, the set value for preliminary announcement is defined by the selected set value.

[0253] For the gaming machine 10 with a gaming machine identification number of "001", defined are a set value of "600" and a set value for preliminary announcement of "550". For the gaming machine 10 with a gaming machine identification number of "002", defined are a set value of "600" and a set value for preliminary announcement of "550". For the gaming machine 10 with a gaming machine identification number of "003", defined are a set value of "1200" and a set value for preliminary announcement of "1150". In the present invention, the candidate values and the values or number of the set values for a preliminary announcement are not particularly limited, and may be set according to circumstances. Moreover, the set value does not need to be set individually for each of the gaming machines 10, but assigned to plural gaming machines 10 collectively. Further, the set value for preliminary announcement does not need to be set individually for each of the gaming machines 10, but assigned to plural gaming machines 10 collectively.

[0254] When CPU 201 receives the number of coin-in, the number of coin-out and the gaming machine identification number from the gaming machine 10 through the communication interface 204, a game history corresponding to the gaming machine identification number is updated. More specifically, 1 is added to the number of games, the number of coins inserted is added to the accumulative number of coin-in and the number of coins paid out is added to the accumulative number of coin-out. Furthermore, a payment balance in terms of the coins and a return rate are calculated based on the accumulative number of coin-in and the accumulative number of coin-out. When CPU 201 determines that the number of games updated has reached a set value, CPU 201 determines the number of coin-out in the return mode based on the set value.

Further, when CPU 201 determines that the updated number of games has reached the set value for preliminary announcement, the CPU 201 thereafter transmits to the gaming machine 10 a preliminary announcement command signal for providing a preliminary announcement of the transition to the return mode, based on the set value for preliminary announcement.

[0255] Fig. 7 is a figure schematically showing an example of correspondence table between a set value and the number of payouts.

The number of coin-out "1000" in the return mode is assigned at a set value of "600". The number of coin-out "2000" in the return mode is assigned at a set value of "1200". The number of coin-out "4000" in the return mode is assigned at a set value of "2400". Since, in the present embodiment, the number of coin-out in the payout return mode is larger the larger a set value is, a profit matching the number of games played by a player is given to the player in the return mode. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust

thereto, or losing interest in or a concern on the game. Note that the correspondence table shown in Fig. 7 is stored on the hard disc drive 205 as data.

[0256] It is not necessary for the number of coin-out set to correspond to a set value to be constantly the same, and for example, the number of coin-out set to correspond to a set value may be changeable according to a game history and the like.

Fig. 8 is a figure schematically showing another example of correspondence table between a set value and the number of payouts.

At a set value "600", " (-payment balance) x 50% (provided that the number of coin-out = 1000 if a payment balance ≥ 0)" is set as the number of coin-out in the return mode. Hence, if a payment balance is "-2000" when the number of games reaches 600, the number of coin-out is 1000, and if a payment balance is "-4000", the number of coin-out is 2000. At a set value "1200", "(- payment balance) x 60% (provided that the number of coin-out = 2000 if payment balance ≥ 0) " is set as the number of coin-out in the return mode. At a set value "2400", "(-payment balance) x 70% (provided that the number of coin-out = 4000 if payment balance ≥ 0)" is set as the number of coin-out in the return mode.

[0257] Next, description will be given of a processing performed in the gaming machine 10.

Fig. 9 is a flowchart showing a procedure in an authentication reading processing for a game program and a game system program executed by a mother board and a gaming board shown in Fig. 4. Note that the memory card 53 is inserted into the card slot 53S on the gaming board 50 and GAL 54 is mounted to the IC socket 54S.

[0258] When a power supply switch is turned on in the power supply unit 45, the mother board 40 and the gaming board 50 are activated (steps S1-1 and S2-1). When the mother board 40 and the gaming board 50 are activated, separate processing are performed at the same time. That is, in the gaming board 50, CPU 51 reads a preliminary authentication program stored in the boot ROM 52 and performs the preliminary authentication which in advance, prior to capturing the authentication program into the mother board 40, confirms or certificates that the program is not altered according to the read preliminary authentication program (step S2-2). On the other hand, in the mother board 40, the main CPU 41 executes BIOS stored in ROM 42 to expand on RAM 43 compressed data incorporated in BIOS (step S1-2). Then, the main CPU 41 executes BIOS expanded on RAM 43 to perform diagnosis on and initialization of various kinds of the peripheral devices (step S1-3).

[0259] Then, since ROM 55 on the gaming board 50 is connected to the main CPU 41 through PCI bus, the main CPU 41 not only performs reading of the authentication program stored in ROM 55, but also stores the read authentication program into RAM 43 (step 51-4). On this occasion, the main CPU 41 takes a checksum according to ADDSUM method (a standard check function) with the help of the function of a standard BIOS of BIOS, and by performing a confirmation processing for whether or not storage is conducted without error, stores the authentication program into RAM 43.

[0260] Then, after confirming what is connected to the IDE bus, the main CPU 41 accesses the memory card 53 inserted into the card slot 53S through the IDE bus, and conducts reading of the game program and the game system program from the memory card 53. In this case, the main CPU 41 reads 4 bites at a time of data constituting the game program and the game system program. Next, the main CPU 41 authenticates by confirming and certifying according to the authentication program stored in RAM 43, that the read game program and game system program has not been altered (step S1-5). When the authentication processing is normally completed, the main CPU 41 writes and stores in RAM 43 the game program and the game system program that have been an object of authentication (have been authenticated) (steps S1-S6). Then, main CPU 41 accesses through the PCI bus to GAL 54 mounted to the IC socket 54S, reads data for setting a payout rate from GAL 54 and writes and stores the data in RAM 43 (step S1-7). Then, the main CPU 41 not only reads through the PCI bus country identification information stored in ROM 55 on the gaming board 50, but also stores the read country identification information into RAM 43 (step S1-8).

[0261] After the processing is over, the main CPU 41 sequentially reads and executes the game program and the game system program to such that a game is progressed.

[0262] After the processing shown in Fig. 9 is over, the main CPU 41 performs a game mode selection processing.

Fig. 10 is a flowchart showing a subroutine of a game mode selection processing.

The main CPU 41 conducts a processing for adding credits stored in RAM 43 as an interrupt processing when it receives a detection signal outputted from the coin counter 21C in a case where the coin counter 21C detects a coin inserted into the coin receiving slot 21 while executing the subroutine.

Figs. 11A and 11B are figures showing an image displayed on the lower image display panel when a game mode selection processing is executed.

[0263] To begin with, the main CPU 41 conducts a processing to displayon the lower image displaypanel 16 an image for requesting to the player selection of a game mode (step S3). In this processing, the main CPU 41 transmits a depiction command for the game mode selection image to the graphic board 68. On the graphic board, VDP extracts image data from RAM 43 and expands the data on the video RAM to produce image data for one frame and to output the image data to the lower image display panel 16, based on the depiction command. As a result, for example, an image as shown in Fig. 11A is displayed on the lower side display panel 16.

[0264] Fig. 11A is a figure showing an example of game mode selection image displayed on the lower image dis-

play panel. In the figure, numerical reference 15 (15L, 15C and 15R) indicates displaywindows. An image showing "Select amode!! " is displayed in the upper portion of the lower image display panel 16. The image is an image for requesting a player to select a game mode. Moreover, images showing "INSURANCE" and "NO INSURANCE" are displayed in the lower portion of the lower image display panel 16. The images are images indicating game mode options and the player touches a predetermined site of the touch panel 69 corresponding to a display region of the image, and is thereby enabled to input a command for selecting a game mode.

[0265] The option "INSURANCE" corresponds to the with-insurance mode. A predetermined number of credits (for example, number of credits equivalent to 1 dollar) is required for selecting the with-insurance mode. As an alternative of the number of credits, a note or a coin equivalent to the number of credits may be inserted. In a case where the with-insurance mode has been selected, when the number of games reaches a set value (for example, 600) without a bonus game being generated, the return mode flag is set to the state "ON" and a game state shifts to the return mode. In the return mode, the player can receive payout of coins corresponding to the set value. In other words, in the with-insurance mode, a game can be played in a state where an insurance is carried for compensating all or part of a loss arising in a case where no bonus game has arisen for a long time. On the other hand, an option "NO INSURANCE" corresponds to the without-insurance mode. In a case where the without-insurance mode has been selected, the return mode flag is not set to the state of "ON" and a game state does not shift to the return mode even if no bonus game has arisen for a long time after the without-insurance mode is selected.

[0266] After the processing in step S3, the main CPU 41 determines whether the with-insurance mode has been selected or not (step S4). In a case where it is determined that the with-insurance mode has been selected, the main CPU conducts a processing for subtracting a predetermined number of credit from the number of credits stored in RAM 43 (step S5). Thereafter, the game execution processing in the with-insurance mode is conducted (step S6).

While detailed description of the above-mentioned processing will be given later by making reference to Fig. 12, when played in the with-insurance mode, an image showing "INSURED" is displayed in the upper left of the lower image display panel 16, as shown in Fig. 11B. The image is an image showing that a game mode is in the with-insurance mode.

[0267] On the other hand, in the case where, in step S4, it is determined that the without-insurance mode has been selected, the main CPU 41 conducts the game execution processing in the without-insurance mode (step S7). Since this processing is a processing almost the same as the game execution processing in the with-insurance mode (see Fig. 12) except that neither a processing related to transition to the return mode nor a processing related to counting of the number of games is conducted, description thereof is omitted here. When the processing in step S6 or S7 has been executed, the process is returned to step S3 thereafter.

[0268] Fig. 12 is a flowchart showing a subroutine of a game execution processing in the with-insurance mode that is called and executed in step S6 of the subroutine shown in Fig. 10.

In the game execution processing, the main CPU 41 at first determines whether or not a coin is BET (step S10). In the processing, the main CPU 41 determines whether an input signal outputted from the 1-BET switch 26S or the maximum BET switch 27S has been received or not when the 1-BET button 26 or the maximum BET button 27 is operated, respectively. If it is determined that a coin has not been BET, the process returns to step S10.

[0269] On the other hand, if it is determined in step S10 that a coin is BET, the main CPU41 conducts aprocessing for subtracting the number of credits stored in RAM 43 according to the number of BET coins (step S11). In a case where the number of BET coins is more than the number of credits stored in RAM 43, the process returns to step S10 without conducting subtraction on the number of credits stored in RAM 43. In a case where the number of BET coins exceeds the upper limit (50 coins in the present embodiment) up to which a BET is possible in one game, the processing advances to step S12 without conducting a processing for subtracting the number of BET coins from the number of credits stored in RAM 43.

[0270] Then, the main CPU 41 determines whether the spin button 23 has been turned ON or not (step S12). In the processing, the main CPU 41 d determines, when the spin button 23 is pressed, whether an input signal outputted from the spin switch 23S has been received or not.

If it is determined that the spin button 23 has not been turned ON, the processing returns to step S10. Note that in a case where the spin button has not been turned ON (for example, in a case where a command of terminating a game has been inputted without turning ON the spin button 23), the main CPU 41 cancels a result of the subtracting processing in step S11.

[0271] In the present embodiment, description will be given of a case in which: after a coin is BET (step S10), a processing for conducting subtraction on the number of credits (step S11) is conducted prior to the determination on whether the spin button 23 has been turned ON or not (step S12). However, the present invention is not limited to this example. For example, a processing for subtraction on the number of credits (step S11) may be conducted after a coin is BET (step S10), determined-whether the spin button 23 has been turned ON or not (step S12), and when determined that the spin button 23 has been turned ON (YES in step S12).

[0272] Meanwhile, in step S12 of Fig. 12, if it is determined that the spin button 23 has been turned ON therein, the main CPU 41 conducts a lottery processing (step

S13). In the lottery processing, the main CPU 41 (processing device) executes a lottery program stored in RAM 43 (storage device) to thereby determine a code No. of the stopped reels 14. Thus, a combination of symbols stop displayed is determined. Detailed description of the processing will be given later by making reference to Figs. 13 and 14. When the processing in step S13 is executed, the main CPU 41 works as winning combination determination means for determining a winning combination by a lottery. In the present embodiment, description will be given of a case where a combination of symbols stop displayed is determined, and one winning combination of plural winning combinations is determined thereafter. However, in the present invention, one winning combination selected from plural winning combinations may at first be determined by a lottery, and the combination of symbols to be stop displayed may be determined thereafter, based on the determined winning combination.

[0273] Then, the main CPU 41 conducts a reel rotating control processing (step S14). The processing is a processing which, after all of the reels 14 starts to rotate, stops the rotating of each of the reels 14 such that a combination of symbol sequences corresponding to the winning combination determined in step S13 is stop displayed on the winning line L. Detailed description of the processing will be given later by making reference to Figs. 15 to 17.

[0274] Then, the main CPU 41 determines whether a bonus game trigger has been established or not, that is whether "APPLE" is stop displayed in the display window 15 or not (step S15). If it is determined that the bonus game trigger has been established, the main CPU 41 (processing device) reads a program for conducting a bonus game from RAM 43 (storage device) to execute a bonus game processing (step S16). Here, the first special game state is generated. Detailed description of the bonus game processing will be given later by making reference to Fig. 18. When the processing in step S16 is executed, the main CPU 41 functions as means for generating the first special game state.

[0275] On the other hand, if it is determined that the bonus game trigger has not been established, the main CPU 41 determines whether a winning combination has been established or not (step S17). If it is determined that a winning combination has been established, the main CPU 41 conducts payout of a coin corresponding to the number of coin-in and the winning combination (step S18).

In a case where coins are reserved, the main CPU 41 conducts a processing to add the coins to the number of credits stored in RAM 43. On the other hand, in a case where payout of a coin is conducted, the main CPU 41 transmits a control signal to the hopper 66 and conducts payout of a predetermined number of coins. In that situation, the coin detecting section 67 counts the number of coins paid out from the hopper 66 and when the number of counts reaches a designated number, transmits a payout completion signal to the main CPU 41. Thus, the main CPU 41 stops the driving of the hopper 66 to terminate the coin payout processing.

[0276] When the processing in step S16 or S18 is executed, or when it is determined that no winning combination has been established (that a winning combination has failed to be established) in step S17, the main CPU 41 determines whether the return mode flag stored in RAM 43 is set to the state "ON" or not (step S19). If it is determined that the return mode flag has been set to the state "ON", the main CPU 41 (processing device) reads from RAM 43 (storage device) a program for shifting a game state to the return mode, executes the return mode processing, to thus shift a game state to the return mode (step S20). Here, the second special game state has been generated. Detailed description will be given of the payout return mode processing later using Fig. 19. The main CPU 41, when executing the processing in step S20, functions as means for generating the second special game state.

[0277] If the processing in step S20 has been executed, or if it is determined that the return mode flag has not been set to the state "ON" in step S19, the main CPU 41 determines whether the bonus game (step S16) has been executed or not or whether a game state has shifted to the return mode (step S20) or not (step S21).

[0278] If it is determined that a bonus game has not been executed, or that a game state has not shifted to the return mode, the main CPU 41 executes a counting processing (step S22).

The counting processing is a processing conducted between the gaming machine 10 and the control device 200. The number of coin-in and the number of coin-out for one game together with the gaming machine identification number are transmitted from the gaming machine 10 to the control device 200. In the control device 200, the number of games, an accumulative number of coin-in, an accumulative number of coin-out and the like are updated with respect to each gaming machine identification number.

[0279] When the number of games reaches the set value for preliminary announcement, a preliminary announcement command signal indicative of the set value for preliminary announcement is thereafter transmitted from the control device 200 to the gaming machine 10. On receiving the preliminary announcement command signal, the main CPU 41 executes processing related to the preliminary announcement, such as processing for determining whether or not a preliminary announcement of the transition to the return mode is to be provided, or processing for outputting an image or a sound related to the preliminary announcement.

[0280] Moreover, When the number of games reaches a set value, the number of coin-out in the return mode is determined according to the set value, and a return command signal showing the set value and the number of coin-out is transmitted to the gaming machine 10 from the control device 200. The main CPU 41, when receiving

the return command signal, sets the return mode flag to the state "ON". Detailed description of the counting processing will be given later by making reference to Fig. 21. After the processing in step S22 is executed, the main CPU 41 returns the process to the processing in step S10 and subsequently executes a game in the with-insurance mode.

[0281] On the other hand, when it is determined that a bonus game has been executed or a game state has shifted to the payout return mode, the present subroutine is completed and the process returns to the processing shown in Fig. 10. As a result, a player can once again select whether a game is to be played by the with-insurance mode or the without-insurance mode.

[0282] Fig. 13 is a flowchart showing a subroutine of a lottery processing called and executed in step S13 of the subroutine shown in Fig. 12. The processing is a processing conducted by executing a lottery program stored in RAM 43 with the main CPU 41. The main CPU 41 executes a random number generating program included in the lottery program, and a random number value from the numerical value range of 0 to 255 is selected thereby such that each of the selected random number values correspond to each of the three reels 14 (step S31). In the present embodiment, description will be given of a case where random numbers are generated on a program (a case where so-called software random numbers are used). In the present invention, however, a random number generator may be used, and random numbers may be extracted therefrom (so-called hardware random numbers may be used).

[0283] After the random number values are selected, the main CPU 41 (processing device) refers to symbol weighting determination data corresponding to payout rate setting data which is outputted from GAL 54 and stored in RAM 43, and determines, based on the selected three random number values, code Nos. (see Fig. 3) for each of the reels 14 (step S32). The code Nos. of the reels 14 correspond to code Nos. of the symbols stop displayed on the winning line L. The main CPU 41 determines code Nos. of the reels 14 to thereby determine a winning combination. For example, in a case where code Nos. of the reels 14 are determined "00", "00" and "00", it means that the main CPU 41 determined a winning combination as "JACKPOT". Based on the code Nos. determined for each of the reels, a reel rotating control processing which will be described later is conducted. On this occasion, the main CPU 41 functions as winning combination determination means.

[0284] Here, description of a winning combination in the present embodiment will be given.

Fig. 14 is a figure describing a relationship among winning combinations of plural kinds, establishment possibility of each winning combination and the number of coin-out in the present embodiment. The establishment possibilities of each of the winning combinations shown in Fig. 14 are of a case where a payout rate is set to 88% in a game other than a bonus game. The establishment possibilities shown in the figure show possibilities of the establishment of each of the shown winning combinations in such a case that code Nos. of each of the reels 14 are determined based on the selected three random-number values by referring to a symbol weighting determination data. In other words, the random number values are not made to correspond to each of the winning combinations.

[0285] An establishment possibility of a bonus game trigger is 0.5%. If a player hits the bonus game trigger, three "APPLE" symbols are stop displayed on the winning line L and a bonus game is generated. In the bonus game, executed is a free game of which the number of games is determined by a lottery.

[0286] An establishment possibility of "JACKPOT 7" is 0.5%. If the winning combination has been established, three "JACKPOT 7" symbols are stop displayed on the winning line L, and 30 coins per one coin-in are paid out. The lower the establishment possibility of the winning combination is, the higher the number of coin-out is set. When a combination of symbols stop displayed is not hitting any of the winning combinations shown in Fig. 14, this is a failure, and there is no coin-out.

[0287] Fig. 15 is a flowchart showing a reel rotating control processing called and executed in step S14 of the subroutine shown in Fig. 12. This processing is a processing conducted between the main CPU 41 and the sub CPU 61.

[0288] The main CPU 41 transmits to the sub CPU 61 a start signal that starts the rotating of reels (step S40) . The sub CPU 61 conducts a reel rotating processing when it receives the start signal from the main CPU 41 (step S51). In the processing, the sub CPU 61 supplies a pulse to the motor driving circuit 62. The pulse outputted from the sub CPU 61 is amplified by the driver 64 and supplied to each of the stepping motors 70 (70L, 70C and 70R). As a result, the stepping motors 70 rotate, thereby making the reels 14 (14L, 14C and 14R) to rotate. A stepping motor 70 is a 1-2 phase excitation type stepping motor which has a step angle of 0.9 degree and requires the number of steps of 400 for one rotation. Hence, if 400 pulses are supplied to the stepping motor 70, the reels 14 rotate once.

[0289] When the reels 14 start to rotate, the sub CPU 61 supplies to the motor driving circuit 62 pulses at a lower frequency, and the pulse frequency is gradually raised. A rotational speed of the reels 14 is thereby increased. When a predetermined time elapses, the pulse frequency is controlled to be constant. As a result, the reels 14 rotate at a constant speed.

[0290] Here, description of a rotational operation of the reels 14 will be given, by using Fig. 16.

Figs. 16A to 16D are side views for describing a rotating operation of a reel 14.

As shown in Fig. 16A, a semicircular metal plate 14a is attached to the side surface of a reel 14. The metal plate 14a rotates together with the reel 14. Twenty two symbols (see Fig. 3) are depicted on the circumferential surface

of the reel 14. Three symbols of the twenty two symbols depicted on the circumferential surface of the reel 14 can be visually recognizable through the display window 15 formed in front of the reel 14. The arrowmarkof a heavy line in the figure indicates a rotating direction of the reel 14. A proximity sensor 65a is provided on the side of the reel 14. The proximity sensor 65a is used to detect the metal plate 14a. The proximity sensor 65a does not rotate nor move even if the reel 14 rotates.

[0291] Fig. 16A shows a position of the meal plate 14a when the metal plate 14a starts being detected by the proximity sensor 65a (hereinafter also referred to as a position A) . If the reel 14 rotates when the metal plate 14a is at the position A, the metal plate 14a moves to a position shown in Fig. 16B. Fig. 16B shows a position of the metal plate 14a when the metal plate 14a is being detected by the proximity sensor 65a (hereinafter also referred to as a position B). If the reel 14 rotates when the metal plate 14a is at the position B, the metal plate 14a moves to a position shown in Fig. 16C. Fig. 16C shows a position of the metal plate 14a when the metal plate 14a will no longer be detected by the proximity sensor 65a (hereinafter also referred to as a position C).

[0292] If the reel 14 rotates when the metal plate 14a is at the position C, the metal plate 14a moves to a position shown in Fig. 16D. Fig. 16D shows a position of the metal plate 14a when the metal plate 14a is not detected by the proximity sensor 65a (hereinafter also referred to as a position D). If the reel 14 further rotates, a position of the metal plate 14a returns to the position A. As described above, together with the rotating of the reel 14, the metal plate 14a changes its position in the order from the position A, to the position B, to the position C, to the position D, to the position A and so forth.

[0293] The proximity sensor 65a constitutes an index detecting circuit 65 (see Fig. 3). When it is referred to as "High" at a state where the proximity sensor 65a detects the metal plate 14a, and as "Low" at a state where the proximity sensor 65a does not detect the metal plate 14a, a state of the index detecting circuit 65 is "High" during the period when the metal plate 14a moves from the position A to the position B and to the position C, and a state of the index detecting circuit 65 is "Low" during the period when the metal plate 14a moves from the position C to the position D and to the position A. The sub CPU 61 assigns a rise from "Low" to "High" as an index (origin) 1 and a fall from "High" to "Low" as an index (origin) 2 to thereby recognize the rotating position of the reel 14.

[0294] The main CPU 40, after transmitting in step 40 a start signal to the sub CPU 61, executes representation to be executed while the reels are rotating (step S41). The process is a processing which conducts display of an image on the lower image display panel 16 and output of a sound from the speaker 29 over a period (for example, 3 seconds) determined according to a result and the like of the lottery processing (step S13 in Fig. 12).

[0295] Then, the main CPU 40 determines whether it is the timing at which a command is to be issued so as to stop the rotating of the reel 14, or not (step S42). The timing at which a command is issued so as to stop rotation of a reel 14 is a timing before the time when the representation to be executed while the reels are rotating is terminated, which is an interval having the minimum time necessary for stopping the rotating of the reel 14. Note that the minimum time necessary for stopping the rotating of the reel 14 is determined in advance.

[0296] If it is determined in step S42 that it is not the timing at which the command to stop the rotating of the reel 14 is to be issued, the process returns to the processing in step S42 and the representation to be executed while the reels are rotating continues to be conducted. On the other hand, if it is determined in step S42 that it is the timing at which the command to stop the rotating of the reel 14 is to be issued, the main CPU 41 transmits to the sub CPU 61 a code No. of the reel which is stored in RAM 43 (step S43) . When the sub CPU 61 receives a code No. of the reel from the main CPU 41, the code No. is converted to a stopping position of the reel (the number of steps) from an index, based on a correspondence table between the number or steps and the code Nos. stored in ROM (not shown in the figure) included in the sub CPU 61 (step S52).

[0297] Fig. 17 is a schematic diagram showing a correspondence table between the number of steps and the code No. Each of the code Nos. are related to an index and the number of steps.

Each code No. corresponds to the symbols depicted on the circumferential surfaces of the reels 14 (see Fig. 3) and symbols of code Nos. "00" to "10" correspond to the index 1. Moreover, symbols of code Nos. "11" to "21" correspond to the index 2. The number of steps in the correspondence table shown in Fig. 17 is the number of steps with the index 1 as a reference. For example, if a code No. is "08", a stopping position of the reel is at 145 steps from the index 1. If a code No. is "12", a stopping position of the reel is at 218 steps from the index 1.

[0298] Then, the sub CPU 61 executes a reel stopping processing (step S53). In the processing, the sub CPU 61 detects a rise in the index detecting circuit 65 from "Low" to "High" (the index 1) on each of the reels 14, and supplies to the motor driving circuit 65 pulses corresponding to the number of steps which were converted in step S52 from a code No. at a timing at which the index 1 is detected, and supplyof pulses is ceased thereafter.

[0299] For example, when, in step S52, the stopping positions of the reels are determined to be 145 steps from the index 1, the sub CPU 61 supplies 145 pulses to the motor driving circuit 65 at a timing at which the index 1 is detected, and the supply of pulses is terminated thereafter. Furthermore, when, in step S52, the stopping positions of the reels are determined to be 218 steps from the index 1, the sub CPU 61 supplies 218 pulses to the motor driving circuit 65 at a timing at which the index 1 is detected. As a result, the reels 14 stop at the code No. determined in step 32 of Fig. 13 and the combination of symbols corresponding to the winning combination de-

termined in step S32 of Fig. 13 is stop displayed on the winning line L. On the other hand, the main CPU 41 terminates the representation to be executed while the reels are rotating. After the processing in steps S44 and S53 are over, the present reel rotating control processing is completed.

[0300] Moreover, when an index corresponding to the code No. transmitted in step S43 is different from an index detected by the index detecting circuit 65 when the rotating of the reels 14 stop, this means that an out-of-order state occurred on the reels 14; therefore, the main CPU 41 conducts a processing for displaying an error message on the lower image display panel 16 to temporarily stop a game.

For example, in a case where, even though a processing for stopping the reel 14L was executed at the code No. 12 corresponding to the index 2, the index 1 is detected by the index detecting circuit 65 when the rotating of the reel 14L stops, the game is temporarily stopped.

[0301] Fig. 18 is a flowchart showing a subroutine of a bonus game processing called and executed in step S16 of the subroutine shown in Fig. 12. In the bonus game processing, firstly, the main CPU 41 determines a number T of bonus games from 10 to 25 games, based on a random number value obtained by executing a random number generation program included in a lottery program stored in RAM 43 (step S60). The main CPU 41 stores as data into RAM 43 the number of games of the determined bonus games.

[0302] Next, the main CPU 41 conducts a lottery processing (step S61) and a reel rotating control processing (step S63). The processing in step S61 is a processing almost the same as the processing described using Fig. 13. The processing in step S63 is a processing almost the same as the processing described using Fig. 15. Since descriptions of these processing have already been given, descriptions thereof are omitted herein.

[0303] Then, the main CPU 41 determines whether a bonus game trigger has been established or not, that is, whether three "APPLE" are stop displayed in the display windows 15 or not (step S64). If it is determined that the bonus game trigger has been established, the number t of additional games of the bonus game is determined in a lottery (step S65) and the determined number t of additional games is added to the number T of games of the bonus game (step S66). Thus, when a bonus game is hit during the bonus game, a remaining number of bonus games increases. More specifically, for example, in a case where a game state shifts to 20 bonus games for the first time, and hits 17 bonus games upon conducting 12 of the bonus games, another 25 bonus games (20 bonus games - 12 bonus games + 17 bonus games) are to be conducted.

[0304] If a bonus game trigger has not been established, the main CPU 41 determines whether a winning combination has been established or not (step S67). If it is determined that the winning combination has been established, the main CPU 41 conducts payout of coins corresponding to the number of coin-in and the winning combination (step S68). Since the processing is similar to the processing in step S18 and description thereof has already been given, the description of the present processing is omitted herein.

[0305] In a case where the processing in step S66 or S68 has been executed, or if it is determined in step S67 that any winning combination has not been established (if it is determined that a failure has occurred), the main CPU 41 reads the number T of bonus games stored in RAM 43, and one bonus game is subtracted from the read number T of bonus games. The number T of bonus games after the subtraction is again stored into RAM 43 (step S69).

[0306] Then, the main CPU 41 determines whether the number T of bonus games reaches the number of games determined in step S60 or not (step S70). More specifically, it is determined whether the number T of games stored in RAM 43 has become 0 or not, and if the number T of games is not 0, that is, if it is determined that the number of bonus games played does not reach the number of games which were determined in step S60, the process returns to step S61 and the above-mentioned processing is repeated. On the other hand, if the number T of games is 0, that is, if it is determined that the number T of games has reached the number of games which were determined in step S60, a number-of-games reset signal is transmitted to the control device 200 (step S71), and the present subroutine is completed thereafter. The number-of-games reset signal includes the gaming machine identification information of the gaming machine 10, and CPU 201 of the control device 200, when receiving the number-of-games reset signal, resets to 0 the number of games of which is stored in the hard disc drive 205 by being made to correspond to the gaming machine identification information included in the number-of-games reset signal.

[0307] Fig. 19 is a flowchart showing a subroutine of a return mode processing called and executed in step S20 of the subroutine shown in Fig. 12.

Firstly, themainCPU41 (processing device) extracts image data corresponding to a set value from image data as notification data which is stored in RAM 43 (storage device), conducts, based on the image data, a processing for displaying an image corresponding to a set value on the lower image display panel 16 (output device), and notifies the transition to the return mode by an image (step S80). The set value is transmitted as data to the gaming machine 10 from the control device 200 and stored in RAM 43 by step S22 of Fig. 12. Image data for notifying the transition to the return mode is read from the memory card 53 and included in a game program stored into RAM 43. In the game program, as image data for notifying the transition to the payout return mode, included are a plurality of image data which are made to correspond to the set values.

[0308] The main CPU 41 determines the image to be displayed on the lower image display panel 16, based on

the set value stored in RAM 43. The main CPU 41 transmits to the graphic board 68 a depiction command based on the result determined. In the graphic mode 68, VDP extracts fromRAM 43 image data corresponding to the set value, expands the data on the video RAM, produces image data for one frame and outputs the image data to the lower image display panel 16. As a result, for example, images as shown in Figs. 20A to 20C are displayed on the lower image display panel 16.

[0309] Figs. 20A to 20C are figures showing an example of image displayed on the lower image display panel when a game state shifts to the return mode (when the second special game state is generated). Numerical reference 15 (15L, 15C and 15R) in the figures indicates display windows. An image shown in Fig. 20A is an image displayed on the lower image display panel 16 when a game state shifts to the return mode at a set value of 600. On the lower image display panel 16, an image showing "BONUS !!", together with two images showing fireworks are displayed. An image showing "TIME OF PLAY 600" is also displayed in the lower portion of the lower image display panel 16. This image is an image showing that the number of games reached 600).

[0310] An image shown in Fig. 20B is an image displayed on the lower image display panel 16 when a game state shifts to the return mode at a set value of 1200. On the lower image display panel 16, an image showing "BONUS !!", together with four images showing fireworks are displayed. An image showing "TIME OF PLAY 1200" is also displayed in the lower portion of the lower image display panel 16. This image is an image showing that the number of games reached a set value of 1200.

[0311] An image shown in Fig. 20C is an image displayed on the lower image display panel 16 when a game state shifts to the return mode at a set value of 2400. On the lower image display panel 16, an image showing "BONUS !!", together with six images showing six fireworks are displayed. An image showing "TIME OF PLAY 2400" is displayed in the lower portion of the lower image display panel 16.

[0312] In the gaming machine 10, when the game state shifts to the return mode, an image showing on which set value the return mode generated is based is thus displayed on the lower image display panel 16.

[0313] Then, the main CPU 41 (processing device) extracts from sound data as data for notification stored in RAM 43 (storage device), sound data corresponding to a set value, and based on the sound data, outputs from the speaker 29 (output device) a sound corresponding to the set value, to thereby notify transition to the return mode with a sound (step S81).

The sound data for notifying transition to the return mode is included in a game program read from the memory card 53 and stored in RAM 43. In the game program, sound data of plural kinds which are made to correspond to the set values are included as sound data which notifies that the game state has shifted to the return mode.

[0314] The main CPU 41 determines the sound outputted from the speaker 29, based on the set value stored in RAM 43. The main CPU 41 extracts a sound data from RAM 43, based on the result determined, and converts the sound data to a sound signal to supply the signal to the speaker 29. As a result, a sound showing on which set value the returnmode generated is based, is outputted from the speaker 29.

[0315] Then, the main CPU 41 conducts payout of the number of coins determined according to a set value (step S82). The number of payout coins in step S82 is the number of coin-out in the return mode and is determined according to the set value by the control device 200. The number of coins in the return mode is included in the return command signal as data transmitted to the gaming machine 10 from the control device 200 in step S22 of Fig. 12. The number of coin-out in the return mode is stored as data in RAM 43 of the gaming machine 10 which received the return command signal.

[0316] In a case where coins are reserved, the main CPU 41 conducts a processing for adding the number of credits stored in RAM 43. On the other hand, in a case where the coins are to be paid out, the main CPU 41 transmits a control signal to the hopper 66 to conduct a predetermined number of coin-out. In the payout of coins, the coin detecting section 67 counts the number of coins paid out from the hopper 66 and when the number of counts reaches a designated number, and transmits a payout completion signal to the main CPU 41. The main CPU 41 thereby ceases the driving of the hopper 66 to end the coin-out processing, sets the return mode flag to the state "OFF" (step S83) thereafter, and thus the present subroutine is completed.

[0317] Fig. 21 is a flowchart showing a counting processing called and executed in step S22 of the subroutine shown in Fig. 12.

The processing is a processing conducted between the main CPU 41 of a gaming machine 10 and CPU 201 of the control device 200. Here, one set value selected from plural candidate values "600", "1200" and "2400" stepwise determined in advance is set to each of the plural gaming machines 10 (see Fig. 6).

[0318] To begin with, the main CPU 41 transmits by the communication interface 44 the number of coin-in and the number of coin-out stored in RAM 43 together with the gaming machine identification number to the control device 200 through the communication line 101 (step S90). The number of coin-in and the number of coin-out transmitted to the control device 200 from the gaming machine 10 are those of the game concerned.

The processing in step S90 is a processing in which the main CPU 41 (processing device) transmits the identification information of the gaming machine 10 stored in the RAM 43 (storage device) to the control device 200 through the communication line 101, each time a game is played. When the processing in step S90 is executed, the main CPU 41 functions as means for transmitting the identification information of the gaming machine 10 to the control device 200 through the communication line

101.

[0319] On the other hand, the CPU 201 of the control device 200, when receiving from the gaming machine 10 the number of coin-in, the number of coin-out and the gaming machine identification number through the communication line 101 by the communication interface 204, updates the number of games, the accumulative number of coin-in and the accumulative number of coin-out corresponding to the received gaming machine identification number (step S100), by choosing the data, which are made to correspond to each of the gaming machine identification numbers, of the number of games, the accumulative number of coin-in, the accumulative number of coin-out stored in the hard disc drive 205 (see Fig. 6).

[0320] Then, CPU 201 determined whether or not the number of games after the updating has reached the set value for preliminary announcement (step S101). If it is determined that the number of games after the updating has not reached the set value for preliminary announcement, the process returns to step S101.

[0321] On the other hand, when it is determined in step S140 that the updated number of games has reached the set value for preliminary announcement, the CPU 201 transmits by the communication interface 204 a preliminary announcement command signal indicative of the set value for preliminary announcement to the gaming machine 10, in which the number of games has reached a set value for preliminary announcement, through the communication line 101 (step S141).

[0322] When the preliminary announcement command signal transmitted from the control device 200 in step S141 is received, the main CPU 41 of the gaming machine 10 determines whether or not preliminary announcement is to be provided (step S130).

In the process, the main CPU 41 determines whether or not a preliminary announcement is to be provided, based on a random number value obtained by executing a random number generation program included in a lottery program stored in RAM 43. When it is determined not to provide preliminary announcement (step S131 : NO), the process returns to step S91. On the other hand, when it is determined to provide a preliminary announcement (step S131 : YES), the CPU 41 shifts the processing to step S132. In step S131, the main CPU 41 functions as determining means for determining whether or not a preliminary announcement of the transition to the return mode is to be provided (generation of the second special game state).

[0323] In the present embodiment, there will be described a case where it is determined whether or not a preliminary announcement announcing that the second special game state will be generated is to be provided on receiving the preliminary announcement command signal. The present invention is, however, not limited to this example. In the present invention, for example, it may be determined whether or not a preliminary announcement announcing that the second special game state will be generated is to be provided even when the preliminary announcement command signal is not received. In this case, even though a preliminary announcement is provided, the second special game state will not be generated as announced by the preliminary announcement. A preliminary announcement announcing generation of the second special game state is provided even in the case the second special game state is not generated. On the other hand, a preliminary announcement announcing generation of the second special game state is not provided even in the case the second special game state is generated. As such, since the game state is not always in accordance with the preliminary announcement, a player who has spent many of the game media can be prevented from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game.

[0324] In step S132, the main CPU 41 executes a processing for extracting image data corresponding to the set value for preliminary announcement out of image data which is stored as preliminary announcement data in the RAM 43 and displaying an image corresponding to the set value for preliminary announcement on the lower image display panel 16, based on the extracted image data, to provide a preliminary announcement by image announcing that the game mode will shift to the return mode after the predetermined number of games are played (step S132). The set value for preliminary announcement is transmitted as data from the control device 200 to the gaming machine 10 and then stored in the RAM 43, through step S141. The image data for providing a preliminary announcement of transition to the return mode is included in the game program, which has been read from the memory card 53 and stored in the RAM 43. This game program includes, as image data for providing a preliminary announcement of transition to the return mode, plural types of image data corresponding to set values for preliminary announcement.

[0325] The main CPU 41 determines the image to be displayed on the lower image display panel 16, based on the set value for preliminary announcement stored in the RAM 43. The main CPU 41 transmits a depiction command based on the determination result to the graphic board 68. On the graphic board 68, VDP extracts image data corresponding to the set value for preliminary announcement from RAM 43, expands the data on the video RAM to produce image data for one frame, and outputs the image data to the lower image display panel 16, based on the depiction command. As a result, for example, image as shown in Fig. 22 is displayed on the lower image display panel 16.

[0326] Fig. 22 is figure showing example of image displayed on the lower image display panel when the number of games has reached a set value for preliminary announcement. In the figure, numerical reference 15 (15L, 15C and 15R) indicates display windows. The image shown in Fig. 22 is an image displayed on the lower image displaying panel 16 when the number of games

reaches 550, 1150, or 2350 as the set value for preliminary announcement in the case where the set value is 600, 1200, or 2400, respectively. An image showing "BONUS CHANCE!" is displayed on the lower image display panel 16. Further, an image indicating "50 MORE PLAYS" is displayed at the lower portion of the lower image display panel 16. This image is an image displayed when the number of games has reached the set value for preliminary announcement (550, 1150 or 2350), and also is an image for providing a preliminary announcement announcing that the game mode will shift to the return mode after 50 more games are played.

[0327] As described above, in the gaming machine 10, when the number of games reaches the set value for preliminary announcement, the image providing a preliminary announcement of transition to the return mode is displayed on the lower image display panel 16. When executing the processing in step S132, the main CPU 41 functions as means for providing a preliminary announcement of transition to the return mode after playing more games of the number indicated by the predetermined value, by outputting an image to the lower image display panel 16 of which is an output means when the number of games reaches the set value for preliminary announcement which is smaller by the predetermined value than the set value. Moreover, in the gaming machine 10, a preliminary announcement is provided without including information (for example, information that the preliminary announcement is based on a set value "600") concerning the stage of the set value related to the preliminary announcement in the content of the preliminary announcement. Accordingly, a player who has spent many of the game media can be prevented from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game occurring in the case where a preliminary announcement of transition to the return mode with a relatively small degree of advantage (generation of the second special game state) is provided.

[0328] Then, the main CPU 41 (processing device) extracts from sound data as data for notification stored in RAM 43 (storage device), sound data corresponding to a set value for preliminary announcement, and based on the sound data, outputs from the speaker 29 (output device) a sound corresponding to the set value for preliminary announcement, to thereby provide a preliminary announcement of transition to the return mode with a sound (step S133).

The sound data for providing a preliminary announcement of transition to the return mode is included in a game program read from the memory card 53 and stored in RAM 43. In the game program, sound data of plural kinds which are made to correspond to the set values for preliminary announcement are included as sound data which provide a preliminary announcement announcing that the game state has shifted to the return mode.

[0329] The main CPU 41 determines the sound outputted from the speaker 29, based on the set value stored in RAM 43. The main CPU 41 extracts a sound data from RAM 43, based on the result determined, and converts the sound data to a sound signal to supply the signal to the speaker 29. As a result, a sound providing a preliminary announcement of transition to the return mode after playing the games of the number indicated by the predetermined value, is outputted from the speaker 29. When the processing in step S133 is executed, the main CPU 41 functions as means for providing a preliminary announcement of transition to the return mode after playing the games of the number indicated by the predetermined value when the number of games reaches the set value for preliminary announcement which is smaller by the predetermined value than the set value , by outputting a sound from the speaker 29 as output means.

[0330] On the other hand, when the number of games has not reached the set value for preliminary announcement (NO in step S140) or after the processing in step S141, the CPU 201 of the control device 200 determines whether or not the updated number of games has reached the set value (step S101). When it is determined that the updated number of games has not reached the set value, the present subroutine is completed.

[0331] On the other hand, if it is determined in step S101 that the number of games after the updating has reached the set value, CPU 201 determines the number of coin-out corresponding to the set value, based on a correspondence table (see Fig. 7) between the set value and the number of coin-out stored in the hard disc drive 205 (step S102).

[0332] Then, CPU 201 transmits through the communication line 101 by the communication interface 204 to the gaming machine 10 in which the number of games has reached the set value, a return command signal showing the set value and the number of payout coins (step S103). Thereafter, CPU 201 resets to 0 the number of games stored in the hard disc drive 205 which are made to correspond to the gaming machine identification number of the gaming machine 10 (step S104). In succession thereto, CPU 201 selects a new set value by lottery and the selected set value is stored in the hard disc drive 205, being made to correspond to the gaming machine identification number of the concerned gaming machine 10 (step S105).

[0333] The main CPU 41 of the gaming machine 10, when receiving the return command signal transmitted from the control device 200 in step S103, sets the return mode flag to the state "ON" (step S91). The processing in step S91 is a processing for receiving a command signal transmitted from the control device 200 when the number of games accumulatively counted by the control device 200 based on the identification information of the gaming machine 10 reaches a set value selected from plural candidate values stepwise determined in advance. In step S91, the main CPU 41 functions as means for receiving a command signal transmitted from the control device 200. The main CPU 41 thereafter stores into RAM 43 data showing the set value and the number of payout

coins, included in the return command signal (step S92). Thereafter, the present processing is terminated.

[0334] In the present embodiment, description has been given of a case where a game state shifts to the return mode when the number of games reaches a set value (see Fig. 21). The present invention is, however, not limited to this example. For example, in a case where the number of inserted game media for a game played by the player is at the upper limit value that can be accepted in one game when the number of games reaches the set value, the second special game state may be generated (the game state shifts to the return mode). This is because in such a case, a player can be urged to insert game media up to the upper limit and a facility such as a casino and the like can increase a profit.

Moreover, in a case where the second special game state is generated when the number of inserted game media is at the upper limit value, the second special game state may be generated not when the number of games reaches the set value, but when the number of inserted game media is at the upper limit value for a game played by a player when the number of games in which insertion of game media is conducted to the upper limit value reaches a set value. This is because, in such a case, it can be prevented from a small number of game media to be inserted in a game, thereby leading to a fact that the second special game state is generated by the spending of only a small number of game media in total.

[0335] A gaming machine 10 according to the present embodiment includes: the main CPU 41 (processing device); RAM 43 (storage device) ; the lower image display panel 16 (output device) ; and the speaker 29 (output device), is a gaming machine 10 connected through the communication line 101 to the control device 200 which accumulatively counts the number of games in each gaming machine 10 of plural gaming machines 10, and wherein the main CPU 41 executes : a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in RAM 43 (see Fig. 13) ; a processing reading from RAM 43 a program for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger", and executing the program (see Fig. 18) ; a processing transmitting through the communication line to the control device 200 the identification information of the gaming machine 10 stored in RAM 43 each time a game is played (step S90 in Fig. 21); a processing for receiving a command signal transmitted from the control device when the number of games accumulatively counted, based on the identification information of the gaming machine, by the control device 200 reaches a set value that is an object with comparison of the number of games , and that is selected from plural candidate values stepwise determined in advance (step S91 in Fig. 21); a processing reading from RAM 43 a program for performing transition to the return mode (the generating of the second special game state) based on the command signal, and executing the program (see Fig. 19) ; and a processing reading from RAM 43 notification data for notifying that the second special game state has been generated based on the set value when the second special game state is generated, and executing a processing to output an image on the lower image display panel 16 and output a sound from the speaker 29, based on the notification data (see Fig. 19) ; aprocessing for receiving from a preliminary announcement command signal transmitted from the control device 200 when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value (step S130 in Fig. 21); and a processing for reading from the RAM 43 preliminary announcement data for providing a preliminary announcement of transition to the return mode (the second special game state will be generated) after the player plays more games of the number indicated by a predetermined value, based on the preliminary announcement command signal, and outputting an image with the lower image displaying panel 16 or outputting a sound from the speaker 29, based on the preliminary announcement data (see Fig. 21).

[0336] A gaming machine 10 is connected through the communication line 101 to the control device 200 which accumulatively counts the number of games for each gaming machine 10 of plural gaming machines 10 wherein: provided are output means (for example, the lower image display panel and the speaker 29) capable of outputting an image or a sound; winning combination determination means (for example, the main CPU 41) for determining a winning combination by lottery; means (for example, the main CPU 41) for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger"; means (for example, the main CPU 41) for transmitting the identification information of the gaming machine 10 through the communication line 101 to the control device 200 each time a game runs; means (for example, the main CPU 41) for receiving a command signal transmitted from the control device 200 when the number of games accumulatively counted by the control device 200 based on the identification information of the gaming machine reaches a set value selected from plural candidate values stepwise determined in advance; means (for example, the main CPU 41) for generating the second special game state based on the command signal; means (for example, the main CPU 41) for receiving a preliminary announcement command signal transmitted from the control device when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value; and means for providing a preliminary announcement announcing that the second special game state will be generated after the player plays more games of the number indicated by the predetermined value, based on the preliminary announcement command signal, by outputting an image or a sound to the output means.

[0337] According to the gaming machine 10, a game state shifts to the return mode without fail by receiving a command signal transmitted from the control device 200 when the number of games counted in the control device 200 reaches a set value selected from plural candidate values stepwise determined in advance. Hence, even in a case where many coins have been spent without the generation of the first special game state for a long period of time, the game state shifts to the return mode without fail if the game is played until the number of games reaches a set value, and a player can earn a profit from the game.

[0338] Further, when the number of games has reached a set value for preliminary announcement (for example, "550") which is smaller by the predetermined value (for example, "50") than the set value (for example, "600"), provided is a preliminary announcement announcing that transition to the return mode will be executed (the second special game state will be generated) after the player plays more games of the number indicated by a predetermined value (for example, 50 times), by outputting an image with the lower image displaying panel 16 and outputting a sound from the speaker 29. Therefore, a player can recognize how many number of games should be played before the second special game state will be generated. As a result, an impression can be made on the player that a return is carried out as a result of playing the game such that the number of games reaches the set value while preventing the player from not receiving the return.

[0339] Therefore, it can be prevented for a player who has spent many of game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0340] A gaming machine 10 according to the present embodiment is connected to the control device 200 through the communication line 101, and the control device 200 conducts counting of the number of games in the gaming machine 10 and determines whether or not the number of games has reached a set value for preliminary announcement. The gaming machine 10 is not required to use a network and may be standalone.

[0341] A standalone gaming machine 10 according to the present invention includes: the main CPU 41 (processing device), RAM 43 (storage device), the lower image display panel 16 (output device) and the speaker 29 (output device), wherein the main CPU 41 executes : a processing determining one winning combination selected from plural winning combination determined in advance by executing a lottery program stored in RAM 43; a processing reading from RAM 43 a program for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger", and executing the program; a processing accumulatively counting the number of games each time a game is played; a processing selecting a set value from plural candidate values stepwise determined in advance; a processing determining whether the number of games reaches a set value or not; a processing reading from RAM 43 a program for executing transition to the return mode (the generating of the second special game state) when it is determined that the number of games has reached the set value, and executing the program; and a processing for reading from the RAM 43 preliminary announcement data for providing a preliminary announcement announcing that transition to the return mode is made (the second special game state will be generated) after the player plays more games of the number indicated by a predetermined value when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, and outputting an image with the lower image displaying panel 16 or outputting a sound from the speaker 29, based on the preliminary announcement data.

[0342] The gaming machine 10 includes: output means (for example, the lower image display panel 16 and the speaker 29) capable of outputting an image or a sound; winning combination determination means (for example, the main CPU 41) for determining a winning combination by a lottery; means (for example, the main CPU 41) for generating a bonus game when the determinedwinning combination is a special winning combination, "bonus game trigger"; means (for example, the main CPU 41) for accumulatively counting the number of games each time a game is played; means (for example, the main CPU 41) for selecting a set value from plural candidate values stepwise determined in advance; means (for example, main CPU 41) for determining whether the number of games reaches a set value or not; means (for example, the main CPU 41) for conducting transition to the return mode (the generating of the second special game state) when the number of games is determined to have reached a set value; and a means (for example, the main CPU 41) for providing a preliminary announcement announcing that transition to the return mode is made (the second special game state will be generated) after the player plays more games of the number indicated by a predetermined value when the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, by outputting an image with the lower image displaying panel 16 or outputting a sound from the speaker 29.

[0343] In the gaming machine 10 according to the present embodiment, a preliminary announcement of transition to the return mode (the generation of the second special game state) is provided when the number of games reaches a set value for preliminary announcement. However, the present invention is not limited to this example. In a gaming machine 10 of the present invention, a preliminary announcement of transition to the return mode (the generation of the second special game state) may be provided when a payment balance in terms of coins is equal to or less than a set value selected from plural candidate values determined in advance.

[0344] Such a gaming machine 10 includes: the main CPU 41 (processing device) ; RAM 43 (storage device), the lower image display panel 16 (output device); and the speaker 29 (output device), and is connected through the communication line 101 to the control device 200 which accumulatively counts the payment balance in terms of coins in each gaming machine 10 of plural gaming machines 10, and wherein the main CPU 41 executes: a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in RAM 43; a processing reading from RAM 43 a program for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger", and executing the program; a processing transmitting through the communication line 101 to the control device 200 the number of coin-in and the number of coin-out in one game which is stored in RAM 43, together with the identification information of the gaming machine 10, each time a game is played; a processing receiving a command signal transmitted from the control device 200 when, a payment balance in terms of coins accumulatively counted by the control device 200 based on the identification information of the gaming machine 10, the number of coin-in and the number of coin-out in the game reaches a value equal to or less than a set value selected from plural candidate values stepwise determined in advance; a processing reading from RAM 43 a program for conducting transition to the return mode (the generating of the second special game state) based on the command signal, and executing the program; a processing for receiving from a preliminary announcement command signal transmitted from the control device 200 when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value (step S130 in Fig. 21); and a processing for reading from the RAM 43 preliminary announcement data for providing a preliminary announcement announcing that transition to the return mode is conducted (the second special game state will be generated) in a case where the payment balance in terms of the game media becomes equal to or less than the set value, based on the preliminary announcement command signal, and outputting an image with the lower image displaying panel 16 or outputting a sound from the speaker 29, based on the preliminary announcement data.

[0345] The gaming machine 10 includes: an output means (for example, the lower image display panel 16 and the speaker 29) capable of outputting an image or a sound; winning combination determination means (for example, the main CPU 41) for determining a winning combination by a lottery; means (for example, the main CPU 41) for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger"; means (for example, the main CPU 41) for transmitting through the communication line 101 to the control device 200 a payment balance in terms of coins in a game played, together with the identification information of the gaming machine 10, each time a game is played; means (for example, the main CPU 41) for receiving a command signal transmitted from the control device 200 when the payment balance in terms of coins accumulatively counted by the control device 200 based on the identification information of the gaming machine 10 and the payment balance in terms of coins in the game played reaches a set value selected from plural candidate values stepwise determined in advance; means (for example, the main CPU 41) for conducting transition to the return mode (the generating of the second special game state) based on the command signal; means (for example, the main CPU 41) for receiving from a preliminary announcement command signal transmitted from the control device 200 when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value; and means (for example, the main CPU 41) for providing a preliminary announcement announcing that transition to the return mode is conducted (the second special game state will be generated) in a case where the payment balance in terms of the game media becomes equal to or less than the set value, based on the preliminary announcement command signal, by outputting an image with the lower image displaying panel 16 or outputting a sound from the speaker 29.

[0346] Such gaming machine 10 shifts to the return mode, in a case where it receives a command signal transmitted from the control device 200 when a payment balance in terms of coins counted in the control device 200 is equal to or less than a set value selected from plural candidate values stepwise determined in advance. On receiving a preliminary announcement command signal transmitted from the control device 200 when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value, a preliminary announcement is provided announcing that transition to the return mode is conducted in a case where the payment balance in terms of the game media becomes equal to or less than the set value, based on the preliminary announcement command signal, by outputting an image with the lower image displaying panel 16 or outputting a sound from the speaker 29. Therefore, it can be prevented for a player who has spent many of game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0347] The gaming machine 10 is connected through the communication line 101 to the control device 200, and the control device 200 counts payment balance in terms of coins in the gaming machine 10 and determines whether or not the payment balance in terms of coins has reached a set value for preliminary announcement. The gaming machine 10 is, however, not necessarily re-

quired to be those using a network and may be standalone.

[0348] Such a gaming machine 10 includes: the main CPU 41 (processing device); RAM 43 (storage device); the lower image display panel 16 (output device); and the speaker 29 (output device), wherein the main CPU 41 executes: a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in RAM 43; a processing reading from RAM 43 a program for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger", and executing the program; a processing accumulatively counting a payment balance in terms of game media each time a game is played; a processing selecting a set value that is an obj ect of comparison with a payment balance in terms of game media, from plural candidate values stepwise determined in advance; a processing determining whether a payment balance in terms of game media is equal to or less than a set value or not; a processing reading from RAM 43 a program for conducting transition to the return mode (the generating of the second special game state) when it is determined that a payment balance in terms of game media is equal to or less than a set value, and executing the program; and a processing, on receiving from a preliminary announcement command signal transmitted from the control device 200 when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value, for reading from the RAM 43 preliminary announcement data for providing a preliminary announcement announcing that transition to the return mode is conducted (the second special game state will be generated) in a case where the payment balance in terms of the game media becomes equal to or less than the set value, based on the preliminary announcement command signal, and outputting an image with the lower image displaying panel 16 or outputting a sound from the speaker 29, based on the preliminary announcement data.

[0349] This gaming machine 10 includes: output means (for example, the lower image display panel 16 or the speaker 29) capable of outputting an image or a sound; winning combination determination means (for example, the main CPU 41) for determining a winning combination by a lottery; means (for example, the main CPU 41) for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger"; means (for example, the main CPU 41) for accumulatively counting a payment balance in terms of game media, each time a game is played; means (for example, the main CPU 41) for selecting a set value from plural candidate values stepwise determined in advance; means (for example, the main CPU 41) for determining whether a payment balance in terms of game media is equal to or less than a set value or not; means (for example, the main CPU 41) for conducting transition to the return mode (the generating of the second special game state) when it is determined that the payment balance in terms of game media is equal to or less than a set value; and means (for example, the main CPU 41), when the payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than the set value, for providing a preliminary announcement announcing that transition to the return mode is conducted (the second special game state will be generated) in a case where the payment balance in terms of the game media becomes equal to or less than the set value, and outputting an image with the lower image displaying panel 16 or outputting a sound from the speaker 29, based on the preliminary announcement data.

[0350] In the present embodiment, description has been given of a case where a game state shifts to the return mode after a player plays more games of the number indicated by a predetermined number when the number of games has reached a set value for preliminary announcement which is smaller by the predetermined value than the set value. Namely, in the present embodiment, description has been given of a case where a game necessarily shifts to the return mode according to a preliminary announcement. In the present invention, a preliminary announcement does not necessarily announce that the game mode will necessarily shift to the return mode as announced by the preliminary announcement, but it is sufficient to announce that there is a possibility of transition to the return mode. For example, there may be provided a preliminary announcement announcing that the second special game state will be generated after the player plays more games of the number indicated by a predetermined value when the number of games has reached a candidate set value for preliminary announcement which is smaller by the predetermined value than any one of a plurality of the candidate values. In employing above-mentioned embodiment for the gaming machine 10, for example, the following processing may be executed instead of the processing shown in Fig. 21.

[0351] Fig. 23 is a flowchart showing another example of a subroutine of a game execution processing. In the flowchart shown in Fig. 23, the same numerical references are assigned to steps which conduct processing similar to those in the flowchart shown in Fig. 21.

[0352] First, the CPU 41 executes a processing in step S90. On the other hand, after executing a processing in step S100, the CPU 201 determines whether or not the number of games after update has reached a candidate set value for preliminary announcement (550, 1150, or 2350) which is smaller by the predetermined value (50) than any one of a plurality of candidate values (600, 1200, 2400) (step S145). If it is determined that the number of games after update has not reached a candidate set value for preliminary announcement, a processing shifts to step S101.

[0353] On the other hand, when it is determined in step

S145 that the updated number of games reaches the candidate set value for preliminary announcement, the CPU 201 transmits a preliminary announcement command signal indicative of the candidate set value for preliminary announcement to the gaming machine 10 in which the number of games reaches a candidate set value for preliminary announcement, by the communication interface 204, and through the communication line 101 (step S146).

[0354] When the preliminary announcement command signal transmitted from the control device 200 in step S146 is received, the main CPU 41 of the gaming machine 10 determines whether or not preliminary announcement is to be provided (step S130). In executing this processing, the main CPU 41 functions as means for receiving a preliminary announcement command signal transmitted from the control device 200. When it is determined not to provide a preliminary announcement (step S131 : NO), the process returns to step S91. On the other hand, when it is determined to provide a preliminary announcement (YES in step S131), the CPU 41 shifts the processing to step S135.

[0355] In step S135, the main CPU 41 executes a processing for extracting image data corresponding to the candidate set value out of image data which is stored as preliminary announcement data in the RAM 43, and displaying an image corresponding to the candidate set value on the lower image display panel 16, based on the extracted image data, to provide a preliminary announcement announcing that the game mode will shift to the return mode after the predetermined number of games are played, by image. The set value is transmitted as data from the control device 200 to the gaming machine 10 and then stored in the RAM 43, through step S146. The image data for providing a preliminary announcement of transition to the return mode is included in the game program, which has been read from the memory card 53 and stored in the RAM 43. This game program includes, as image data for providing a preliminary announcement of transition to the return mode, plural types of image data made to correspond to candidate set values.

[0356] The main CPU 41 determines the image to be displayed on the lower image display panel 16, based on the set value stored in RAM 43. The main CPU 41 transmits to the graphic board 68 a depiction command based on the result determined. In the graphic mode 68, VDP extracts from RAM 43 image data corresponding to the candidate set value for preliminary announcement, expands the data on the video RAM, produces image data for one frame and outputs the image data to the lower image display panel 16. As a result, for example, images based on the candidate set value are displayed on the lower image display panel 16.

[0357] In the gaming machine 10, when the number of games has reached a candidate set value, an image providing a preliminary announcement of transition to the return mode is thus displayed on the lower image display panel 16. When executing the processing of step S135, the main CPU 41 functions as means for providing a preliminary announcement, which announces that the game shifts to the return mode after a player plays the games of number indicated by the predetermined value (50) when the number of games has reached a candidate set value for preliminary announcement (550, 1150, or 2350) which is smaller by the predetermined value (50) than any one of a plurality of candidate values (600, 1200, 2400), by outputting an image to the lower image display panel 16 as the output means.

[0358] Then, the main CPU 41 (processing device) extracts from sound data as preliminary announcement data stored in RAM 43 (storage device), sound data corresponding to a candidate set value, and based on the sound data, outputs from the speaker 29 (output device) a sound corresponding to the candidate set value, to thereby provide a preliminary announcement of transition to the return mode with a sound (step S136). The sound data for providing a preliminary announcement of transition to the return mode is included in a game program read from the memory card 53 and stored in RAM 43. In the game program, sound data of plural kinds which are made to correspond to the candidate set values are included as sound data which provide a preliminary announcement announcing that the game state has shifted to the return mode.

[0359] The main CPU 41 determines the sound outputted from the speaker 29, based on the set value stored in RAM 43. The main CPU 41 extracts a sound data from RAM 43, based on the result determined, and converts the sound data to a sound signal to supply the signal to the speaker 29. As a result, a sound providing a preliminary announcement announcing that the game shifts to the return mode after a player plays a predetermined number of games (the games of number indicated by the predetermined value) is outputted from the speaker 29. When executing the processing of step S136, the main CPU 41 functions as means for providing a preliminary announcement, which announces that the game shifts to the return mode after a player plays the games of number indicated by the predetermined value (50) when the number of games has reached a candidate set value for preliminary announcement (550, 1150, or 2350) which is smaller by the predetermined value (50) than any one of a plurality of candidate values (600, 1200, 2400), by outputting an sound to the speaker 29 as the output means.

[0360] Thus, in the present embodiment, when the number of games has reached a candidate set value for preliminary announcement (550, 1150, or 2350) which is smaller by the predetermined value (50) than any one of a plurality of candidate values (600, 1200, 2400), there will be provided a preliminary announcement announcing that the game shifts to the return mode after a player plays more games of the number indicated by the predetermined value, by outputting an image to the lower image displaying panel 16, and outputting a sound to the

speaker 29. Therefore, a player can recognize the number of games before the game may shift to the return mode by the image or the sound. As a result, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game while preventing a decline of zest of the game.

[0361] On the other hand, when the number of games has not reached the set value for preliminary announcement (NO in step S145) or after the processing in step S146, the CPU 201 of the control device 200 executes the processes in step S101 to step S105, the present subroutine is completed. On the contrary, the CPU 41 executes the processes in step S91 to step S92, and the present subroutine is completed.

[0362] In the present embodiment, there has been described a case where a set value is selected from plural candidate values stepwise determined in advance. In the present invention, however, a set value may be one kind of a set value (for example, "600"). In such a case, when the number of games reaches a set value (for example, "600") that is an object of comparison with the number of games, a second special game state that is a game state advantageous to a player and that is the same type as or different type from the first special game state is generated. A preliminary announcement announcing that the second special game state will be generated after the player plays more games of the number indicated by a predetermined value is provided by outputting an image or a sound to the output means when the number of games has reached a set value for preliminary announcement which is smaller by the predetermined value than the set value. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game. Further, in such a configuration, the set value does not need to be set individually for each of the gaming machines 10, but assigned to plural gaming machines 10 collectively.

[0363] In the present embodiment, description has been given of a case where a game state shifts to the return mode when the return mode flag has been set to the state "ON", without other conditions being established thereafter. The present invention is, however, not limited to this example and, for example, a game state may shift to the return mode when a predetermined condition has been met after the return mode flag is set to the state "ON". In such a case, the predetermined condition for transition to the return mode is not particularly limited, and may include, for example, establishment of a bonus game trigger, stop display of a predetermined combination of symbols, and of the like conditions.

[0364] In the present embodiment, description has been given of a case where a game state shifts to the return mode when the return mode flag is set to the state "ON", regardless of the combination of symbols stop displayed thereafter. However, the present invention is not limited to this example. For example, a combination of symbols corresponding to the transition to the return mode may be set in advance and a game state may shift to the return mode after the symbols are stop displayed in that combination of symbols.

[0365] In the present embodiment, description has been given of a case where symbols are stop displayed (step S14 in Fig. 12), a processing is conducted based on the stop displayed combination of symbols (steps S15 to S20 in Fig. 12), and the number of games is counted (step S22 in Fig. 12) thereafter. In the present invention, however, no specific limitation is placed on a timing at which counting of the number of games is conducted. For example, the timing may be a timing at which BET of a coin is conducted (after step S10 or S11 in Fig. 12) or a timing at which the spin button is turned ON (after step S12 in Fig. 12). The number of games may be counted at a predetermined timing that is in the period from the time when display of a change in symbol is started, to the time when symbol sequences are stop displayed, and a processing based on the stop displayed combination of symbols has been conducted (for example, a timing at which symbol sequences are stop displayed). Note that a timing at which a payment balance in terms of game media can be the same as described above.

[0366] In the present embodiment, description has been given of a gaming machine 10 in which in a case where a special winning combination, "bonus game trigger", has been established (step S15 in Fig. 12) in the period from the time when the return mode flag is set to the state "ON" (step S22 in Fig. 12), to the time when transition to the return mode is conducted (step S20 in Fig. 12), transitions to the return mode is further conducted after the bonus game is generated (step S16 in Fig. 12). That is, a gaming machine according to the present embodiment generates the first special game state based on the a special winning combination, and further generates the second special game state, in a case where the special winning combination is established in the period from the time when the number of games reaches a set value, to the time when the second special game state is generated.

[0367] However, the present invention is not limited to this example. For example, in a case where a special winning combination is established in the period from the time when the number of games reaches a set value, to the time when the second special game state is generated, only the first special game state may be generated. In a case where the above embodiment is adopted, a player can earn a profit in the first special game state or the second special game state without fail when a game is played until the number of games reaches the set value. The above embodiment is one of the embodiments of the present invention. In a case where the above embodiment is adopted for the gaming machine 10, for example, the following processing has only to be conducted instead of the processing shown in Fig. 12.

[0368] Fig. 24 is a flowchart showing another example of a subroutine of a game execution processing. In the

flowchart shown in Fig. 24, the same numerical references are assigned to steps which conduct processing similar to those in the flowchart shown in Fig. 12.

[0369] After the processing in steps S10 to S14 are executed, the main CPU 41 determines whether a bonus game trigger has been established or not (step S15) and if it is determined that the bonus game trigger has been established, a bonus game processing is executed (step S16). Then, it is determined whether a return mode flag is set to the state "ON" or not (step S25) and if the return mode flag is set to "ON", the return mode flag is set to the state "OFF" (step S26) . The processing in step S21 is performed thereafter and thus the present subroutine is completed. Since the other processing are processing similar to those described in Fig. 12, descriptions thereof are omitted here. In the subroutine shown in Fig. 24, after a coins is BET (step S10), in a case where it is determined whether the spin button 23 has been turned ON or not (step S12), and if it is determined that the spin button has been turned ON (YES in step S12), a processing for subtracting the number of credits (step S11) may be conducted, as in the subroutine shown in Fig. 12.

[0370] A more specific description of the processing shown in Fig. 24 will be given here with a case where a set value is 600. In a case where, in step S22, the number of games reaches 600 and a return mode flag has been established, if a bonus game trigger has been established (step S15) in the 601st game, the bonus game is generated (step S16) but transition to the return mode is not performed (steps S25 and S26). On the other hand, in a case where a bonus game trigger has not been established in the 601st game run, transition to the return mode is conducted (steps S19 and S20).

Hence, in a case where the processing shown in Fig. 22 is performed, a bonus game is generated or transition to the return mode is performed without fail, when the number of games reaches a set value.

[0371] In the present invention, in a case where a special winning combination has been established in the period from the time when the number of games reaches a set value, to the time when the second special game state is generated, only the second special game state may be generated, or alternatively, either the first special game state or the second special game state may be generated depending on a game situation and the like.

[0372] An embodiment similar to the above-mentioned embodiment can also be adopted in a case where the second special game state is generated according to a payment balance in terms of game media. In other words, in a case where a special winning combination has been established in the period from the time when a payment balance in terms of game media is equal to or less than a set value, to the time when the second special game state is generated, only the first special game state may be generated, only the second special game state may be generated, or either the first special game state or the second special game state may be generated depending on a game situation and the like.

[0373] Although this will be a repetition, in the return mode as the second special game state, a return situation to a player may be simply as such that a predetermined number of game media is paid out when the number of games reaches a set value (see Fig. 19). It may alternatively be a situation that when the number of games reaches a set value, the return mode as the second special game state, allowing a player to have a privilege in a similar manner to the first special game state such as a free game, a second game, a mystery game and the like, can be set, and a predetermined number of game media is paid out by one of the above-mentioned game mode.

In the aforementioned embodiment, both embodiments are exemplified. Both embodiments correspond to the second special game state in the present invention.

[0374] A timing at which a predetermined number of game media is paid out is not limited to such a timing at which one game is completed and symbol sequences are stop displayed as in the mystery game described above, and for example, game media may be immediately paid out when the number of games reaches a set value.

[0375] Moreover, a method for paying out a predetermined number of game media is also not particularly limited, and for example, coins may be actually paid out, the number of credits may be increased, or a ticket such as a ticket with a bar code may be issued.

[0376] However, in order to be able to discriminate and recognize whether a player is paid out by an ordinary game or a bonus game (the first special game state), or by the return mode (the second special game state), it is necessary to perform the following way. That is, in a case where coins are actually paid out in mystery bonus of the return mode (the second special game state), the timing for payout is required to be different from those of an ordinary game and bonus game (the first special game state). Moreover, it is required that payout in an ordinary game and a bonus game (the first special game state) is performed with actual coins and payout in the return mode (the second special game state) is performed with a ticket described above. With such an embodiment adopted, payout in an ordinary game and a bonus game (the first special game state), and payout in the return mode (the second special game state) can be discriminated from each other.

[0377] In the above-mentioned first embodiment, description has been given of the following case. When the number of games has reached a set value for preliminary announcement ("550") which is smaller by a predetermined value ("50") than the set value ("600"), a preliminary announcement that the second special game state will be generated after the player plays more games of the number (50 times) indicated by the predetermined value is provided by outputting an image or a sound to the output means. Next, as another embodiment of the present invention, description will be given of the following case. After the number of games has reached a set

value for preliminary announcement which is smaller by a predetermined value than the set value, a counting value which shows the required number of games to reach the set value is notified by outputting an image or a sound to the output means, every time a game is played.

[Second embodiment]

[0378] In the second embodiment, since an appearance, a circuitry and the like of the gaming machine 10 together with the flowcharts thereof are similar to the above-mentioned gaming machine 10, description other than the difference between the two embodiments will be omitted. Moreover, description of components which correspond to components of the gaming machine according to the first embodiment will be given using the same numerical reference.

[0379] Fig. 25 is a schematic diagram showing the entire construction of a game system according to the second embodiment of the present invention.

A game system 100 includes: plural gaming machines 10; and a control device 200 connected to the gaming machines 10 through a predetermined communication line 101. Such a game system 100 may be constructed in one recreation facility capable of playing various kinds of games such as a bar, a casino and the like, or between plural recreation facilities. When the game system is constructed in one recreation facility, the game system 100 may be constructed on each floor or section of the recreation facility. The communication line 101 is not particularly limited, and may be wired or wireless, and either a dedicated line or a switched line can be used.

[0380] In the embodiment, the gaming machine 10 is a slot machine. In the present invention, however, a gaming machine is not limited to a slot machine, and for example, a so-called single gaming machine such as a video slot machine, a video card gaming machine and the like may be adopted, and a so-called mass game (multi-terminal gaming machine) such as a racing game, a bingo game, a public lottery and the like, which is a game that takes a predetermined time for a result to be displayed, may also be adopted.

[0381] In the gaming machine 10, a coin, a note or an electronic valuable information corresponding thereto is used as a game media. In the present invention, however, the game media is not particularly limited, and for example, a medal, a token, an electronic money and a ticket can be used. The ticket is not particularly limited and may include, for example, a ticket with a bar code as described later, and of the like tickets.

[0382] The control device 200 controls plural gaming machines 10. Especially, in the present embodiment, the control device 200 controls a transition to a return mode in each of the gaming machines 10. The return mode corresponds to the second special game state in the present invention and many coins are paid out in the return mode. The control device 200 may be a device which controls the return rate by controlling the transition to the return mode. In such a construction, the control device 200 may be a device which controls the return rates of each of the gaming machines 10 individually, or a device which controls the return rate across all gaming machines 10 collectively.

[0383] In the present embodiment, the control device 200 controls preliminary announcements of the transition to return mode in each of the gaming machines 10. In the present invention, a preliminary announcement is provided by notifying a counting value indicative of the required number of games for causing the transition to the return mode. In the present invention, a preliminary announcement is not configured to be preliminary announced such that the game mode will necessarily shift to the return mode as announced by the preliminary announcement, but such that there is a possibility therefor to shift to the return mode. In the present embodiment, described is a case where, when a preliminary announcement is provided, the game mode will necessarily shift to the return mode as announced by the preliminary announcement.

[0384] The control device 200 may further function as a so-called hole server which is installed in a recreation facility having plural gaming machines 10, or as a server which collectively controls plural recreation facilities. Moreover, every gaming machine 10 has its own identification number, and the source of data transmitted to the control device 200 from each of the gaming machines 10 is distinguished therein by their identification numbers. The identification number is also used to designate a transmission destination of data transmitted to the gaming machine 10 from the control device 200.

[0385] The identification number of a gaming machine corresponds to the identification information on a gaming machine of the present invention. The identification information on a gaming machine of the present invention is not particularly limited, and examples thereof may include: a letter, a symbol, a figure, a combination thereof, and the like.

[0386] Fig. 26 is a block diagram showing the internal construction of the gaming machine according to the second embodiment.

A gaming board 50 includes: CPU (Central Processing Unit) 51, ROM 55 and boot ROM 52 which are interconnected to one another by an internal bus; a card slot 53S which accepts a memory card 53; an IC socket 54S which accepts GAL (Generic Array Logic) 54.

[0387] The memory card 53 is constituted of non-volatile memories such as CompactFlash (registered trademark) and stores a game program and a game system program. The game program contains a lottery program. The lottery program is a program for determining symbols (code Nos. corresponding to the symbols) on each of the reels 14 which are to be stop displayed on the winning line L. The lottery program contains one or more of symbol weighting determination data, each corresponding to respective plural kinds of payout rates (for example, 80%, 84% and 88%). The symbol weighting determination data

is data showing a correspondence relationship between a code No. (see Fig. 3) of each symbol and one or plural random number values from a predetermined numerical value range (0 to 255), for each of the three reels 14. A payout rate is determined based on data for setting a payout rate output from the GAL 54, and the lottery is executed based on symbol weighting determination data corresponding to the payout rate.

[0388] The card slot 53S is configured so that the memory card 53 can be inserted therein or drawn out therefrom, and connected to a mother board 40 through IDE bus. Therefore, a kind or contents of a game played in the gaming machine 10 can be changed by drawing out the memory card 53 from the card slot 53S, writing a different game program and game system program thereon, and inserting the memory card 53 into the card slot 53S thereafter. Moreover, a kind or contents of a game played in the gaming machine 10 can also be changed by changing a memory card 53 on which a game program and a game system program are stored to a different memory card 53 on which a different game program and game system program are stored. The game program includes a program related to progress in a game; a program for generating the first special game state; a program for generating the second special game state; and a program for providing a preliminary announcement. The game program further includes: image data and sound data output while a game is played and image data and sound data used as notification data.

[0389] GAL 54 is one kind of PLD having an OR fixed array structure. GAL 54 is equipped with a plurality of an input port and an output port and when a predetermined data is input to the input port, data corresponding to the input data is output from the output port. The data output from the output port is the above-mentioned data for setting a payout rate.

The IC socket 54S is configured such that GAL 54 can be mounted thereto or demounted therefrom, and connected to the mother board 40 through PCI bus. Therefore, data for setting a payout rate output from GAL 54 can be changed by drawing out GAL 54 from the IC socket 54S, rewriting a program stored on GAL 54, mounting GAL 54 to the IC socket 54S thereafter. Moreover, data for setting a payout rate can also be changed by changing GAL 54 to a different GAL 54.

[0390] CPU 51, ROM 55 and boot ROM 52 interconnected to each other by the internal bus are connected to the mother board 40 by PCI bus. The PCI bus not only conducts signal transmission between the mother board 40 and the gaming board 50, but also supplies electric power to the gaming board 50 from the mother board 40. ROM 55 stores country identification information and an authentication program therein. Boot ROM 52 stores a preliminary authentication program, a program for CPU 51 to activate the preliminary authentication program (a boot code) and the like therein.

[0391] The authentication program is a program to authenticate a game program and a game system program (an alteration check program). The authentication program is stated along a procedure for confirmation and certification that the game program and the game system program that are objects of an authentication capture processing are not altered, that is, a procedure for conducting authentication of the game program and the game system program (an authentication procedure). The preliminary authentication program is a program for authenticating the above-mentioned authentication program. The preliminary authentication program is stated along a procedure for certification that an authentication program that is an object of an authentication processing is not altered, that is, a procedure for authenticating the authentication program (an authentication procedure).

[0392] The mother board 40 is constructed with a general-purpose mother board commercially available (a printed circuit board on which basic parts of a personal computer are mounted) and includes: a main CPU 41; ROM (Read Only Memory) 42; RAM (Random Access Memory) 43 and a communication interface 44. The main CPU 41 is the processing device of the present invention.

[0393] ROM 42 is constituted of a memory device such as a flash memory and stores thereon a program such as BIOS (Basic Input/Output System) executed by the main CPU 41 and permanent data. When BIOS is executed by the main CPU 41, not only is an initialization processing for predetermined peripheral devices conducted, but a capture processing for the game program and the game system program stored on the memory card 53 is also started via the gaming board 50. In the present invention, contents of ROM 42 may be rewritable or not rewritable.

[0394] RAM 43 stores data and aprogramused at the time of operation of the main CPU 41. RAM 43 can store the authentication program read through the gaming board 50 together with the game program and the game system program. RAM 43 is the storage device of the present invention.

[0395] RAM 43 is provided with a storage region for a return mode flag. The return mode flag is a flag to be referred to when a game state is to be selected whether it should be shifted to a return mode corresponding to the second special game state or not. The storage region of the return mode flag is constituted of a storage region with, for example, a predetermined number of bits and the return mode flag is turned "ON" or "OFF" according to storage contents in the storage region. If the return mode flag is set to the state "ON", the game state thereafter shifts to the return mode without fail. RAM 43 further stores data on the number of credits, the number of coin-in or coin-out for one game, and the like.

[0396] The communication interface 44 is used to communicate with the control device 200 through the communication line 101. The main CPU 41 transmits the number of coin-in and the number of coin-out together with the gaming machine identification number of the gaming machine 10 to the control device 200 each time a game is played. The number of games, an accumulative

number of coin-in and an accumulative number of coin-out is made to be associated with each gaming machine identification number, and stored in the control device 200. In the control device 200, a set value that is an object of comparison with the number of games is preliminary determined with respect to each gaming machine identification number, and when the number of games of one gaming machine 10 reaches a set value determined for that gaming machine 10, a return command signal is transmitted from the control device 200. When the main CPU 41 receives the return command signal through the communication interface 44, the return mode flag is set to the state "ON".

Further, in the control device 200, after the number of games played in a certain gaming machine 10 has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, the control device 200 transmits a preliminary announcement command signal to the gaming machine 10, each time a game is played. On receiving the preliminary announcement command signal through the communication interface 44, the main CPU 41 executes processing related to preliminary announcements, such as processing for outputting an image or sound related to preliminary announcements.

[0397] Both a body PCB (Printed Circuit Board) 60 and a door PCB 80 which will be described later are connected to the mother board 40 by USB. A power supply unit 45 is also connected to the mother board 40. When electric power is supplied from the power supply unit 45 to the mother board 40, not only is the main CPU 41 of the mother board 40 activated, but CPU 51 is also activated from electric power supplied through the PCI bus to the gaming board 50.

[0398] Equipment and devices which generate input signals to be input to the main CPU 41, and equipment and devices of which operations are controlled by a control signal output from the main CPU 41 are connected to the body PCB 60 and the door PCB 80. The main CPU 41 executes a game program and a game system program stored in RAM 43 based on an input signal input to the main CPU 41, and thereby performs a predetermined computational processing, stores results of thereof into RAM 43 and transmits a control signal to each equipment and device as a control processing for each of the equipment and devices.

[0399] A lamp 30, a sub CPU 61, a hopper 66, a coin detecting section 67, a graphic board 68, a speaker 29 as an output device, a touch panel 69, a note identifier 22, a ticket printer 35, a card reader 36, a key switch 38S and a data display 37 are connected to the body PCB 60. The lamp 30 is lit up in a predetermined pattern based on a control signal output from the main CPU 41.

[0400] The sub CPU 61 controls the rotation and stopping of the reels 14 (14L, 14C and 14R). Amotor driving circuit 62 equipped with FPGA (Field Programmable Gate array) 63 and a driver 64 is connected to the sub CPU 61. FPGA 63 is an electronic circuit such as LSI capable of programming and works as a control circuit of a stepping motor 70. The driver 64 works as an amplifier circuit of a pulse to be input to the stepping motor 70. The stepping motors 70 (70L, 70C and 70R) which rotate each of the reels 14, are connected to the motor driving circuit 62. The stepping motor 70 is a 1-2 phase excitation type stepping motor.

[0401] In the present invention, an excitation type of the stepping motor is not particularly limited, and for example, a motor of a 2 or 1 phase excitation type can be adopted. A DC motor may be adopted instead of a stepping motor. When a DC motor is adopted, a deviation counter, a D/A converter and a servo amplifier are sequentially connected to the sub CPU 61 in this order and the DC motor is connected to the servo amplifier. A rotational position of the DC motor is detected by a rotary encoder and a current rotational position of the DC motor is supplied as data from the rotary encoder to the deviation counter.

[0402] An index detecting circuit 65 and a position change detecting circuit 71 are connected to the sub CPU 61. The index detecting circuit 65 is used for detecting positions (indexes described later) of the rotating reels 14 and can also detect an out-of-order state of the reels 14. As for the control of the rotating and stopping of the reels 14, description thereof will be omitted herein since it has already been given.

[0403] The position change detecting circuit 71 detects a change of stoppage positions of the reels 14 after the stopping of the rotating of the reels 14. The position change detecting circuit 71 detects the change of stoppage positions of the reels 14, for example, in a case where the stoppage position is changed by force by a player as if the combination of symbols was in a wining state, despite the fact that the combination of symbols is not actually in a wining state, and of the like cases. The position change detecting circuit 71 is configured to be capable of detecting the change of stoppage position of the reel 14 by, for example, detecting fins (not shown in the figure) attached with a predetermined space on the inner side of the reel 14.

[0404] The hopper 66 is installed in the cabinet 11 and pays out a predetermined number of coins from a coin payout exit 19 to a coin tray 18 based on a control signal output from the main CPU 41. A coin detecting section 67 is installed inside the coin payout exit 19 and when detecting that a predetermined number of coins has been paid out from the coin payout exit 19, outputs an input signal to the main CPU 41.

[0405] The graphic board 68 controls, based on a control signal output from the main CPU 41, image displays on the upper image display panel 33 and the lower image display panel 16 as an output device. The number of credits stored in RAM 43 is displayed on the number-of-credits display section 31 of the lower image display panel 16. The number of coin-out is displayed on the number-of-payouts display section 31 of the lower image display panel 16.

The graphic board 68 is equipped with VDP (Video Display Processor) which generates image data based on a control signal output from the main CPU 41 and a video RAM which temporarily stores image data generated by VDP, and of the like equipments. Note that image data used in generating image data with VDP is read from the memory card 53 and contained in a game program stored in RAM 43.

[0406] The note identifier 22 not only discriminates a true note from a false note, but also accepts the true note into the cabinet 11. The note identifier 22, when accepting a true note, outputs an input signal to the main CPU 41 based on a face amount of the note. The main CPU 41 stores the number of credits corresponding to the amount of the note transmitted with the input signal into RAM 43.

[0407] The ticket printer 35, based on a control signal output from the main CPU 41, prints on a ticket a bar code obtained by encoding data such as the number of credits, date and time, the identification number of the gaming machine 10, and of the like data stored in RAM 43, and outputs the ticket 39 with a bar code.

The card reader 36 transmits to the main CPU 41 data read from the smart card and writes data onto the smart card based on a control signal from the main CPU 41. The key switch 38S is provided on the key pad 38, and when the key pad 38 is operated by a player, outputs a predetermined input signal to the main CPU 41. The data display 37 displays, based on a control signal output from the main CPU 41, data read by the card reader 36 and data input by a player through the key pad 38.

[0408] The control panel 20, a reverter 21S, a coin counter 21C and a cold cathode tube 81 are connected to the door PCB 80. The control panel 20 is provided with a spin switch 23S corresponding to the spin button 23, a change switch 24S corresponding to the change button 24, a CASHOUT switch 25S corresponding to the CASHOUT button 25, a 1-BET switch 26S corresponding to the 1-BET button 26, and a maximum BET switch 27S corresponding to the maximum BET button 27. When the buttons 23 to 27 are operated by a player, each of the switches 23S to 27S corresponding thereto outputs input signals to the main CPU 41.

[0409] The coin counter 21C is installed inside the coin receiving slot 21, and discriminates whether a coin inserted by a player into the coin receiving slot 21 is true or false. Coins other than the true ones are discharged from the coin payout exit 19. The coin counter 21C also outputs an input signal to the main CPU 41 when a true coin is detected.

[0410] The reverter 21S operates based on a control signal output from the main CPU 41 and distributes coins recognized by the coin counter 21C as true coins into a cash box (not shown in the figure) or the hopper 66, which are disposed in the gaming machine 10. In other words, when the hopper 66 is filled with coins, true coins are distributed into the cash box by the reverter 21S. On the other hand, when the hopper 66 is not filled with coins, true coins are distributed into the hopper 66. The cold cathode tube 81 works as a backlight installed on the back face sides of the lower image display panel 16 and the upper image display panel 33 and is lit up based on a control signal output from the main CPU 41.

[0411] Fig. 27 is a block diagram showing the internal construction of a control device according to the second embodiment of the present invention.

A control device 200 includes: CPU 201 as a processing device; ROM 202; RAM 203 as a temporary storage device; a communication interface 204; and a hard disc drive 205. The communication interface 204 is connected to the communication interface 44 of the gaming machine 10 through the communication line 101. ROM 202 stores a system program for controlling operations of the control device, a permanent data, and the like. RAM 203 temporarily stores data received from each of the gaming machines 10 and data such as results of the computational operation. Moreover, a game history of a gaming machine 10 is stored in the hard disc drive 205, by being associated with the gaming machine identification number of each of the gaming machines 10.

[0412] Fig. 28 is a figure schematically showing an example of correspondence table between a gaming machine identification number and a game history.

Each of the gaming machine identification numbers correspond to a game history based on the number of games, an accumulative number of coin-in, an accumulative number of coin-out, a payment balance in terms of the coins and a return rate of coin-out.

[0413] Further, eachof the gaming machine identification numbers is made to correspond to a set value (600) that is an object of comparison with the number of games and a set value for preliminary announcement (550) which is smaller by a predetermined value (50) than the set value (600).

[0414] Further, in the present invention, the set values, the values and the numbers of the set value for preliminary announcement are not particularly limited and may be properly defined. Also, it is possible to collectively define a set value for plural gaming machines 10, instead of individually defining the set values for each of the gaming machines 10. Further, it is possible to collectively define a set value for preliminary announcement for plural gaming machines 10, instead of individually defining the set value for preliminary announcements for each of the gaming machines 10.

[0415] Further, each of the gaming machine identification numbers are made to correspond to a counting value indicative of the required number of games to reach the set value.

The gaming machine 10 with a gaming machine identification number of "001" corresponds to a counting value of "50" since the set value is "600" and the number of games is "550". The gaming machine 10 with a gaming machine identification number of "002" corresponds to a counting value of "30" since the set value is "600" and the number of games is "570". The gaming machine 10 with a gaming machine identification number of "003"

corresponds to a counting value of "10" since the set value is "600" and the number of games is "590".

[0416] When CPU 201 receives the number of coin-in, the number of coin-out and the gaming machine identification number from the gaming machine 10 through the communication interface 204, a game history corresponding to the gaming machine identification number is updated. More specifically, 1 is added to the number of games, the number of coins inserted is added to the accumulative number of coin-in and the number of coins paid out is added to the accumulative number of coin-out. Furthermore, a payment balance in terms of the coins and a return rate are calculated based on the accumulative number of coin-in and the accumulative number of coin-out. Further, the counting value is calculated, based on the number of games and the set value. When CPU 201 determines that the number of games updated has reached a set value, CPU 201 sends to the gaming machine 10, a return command signal indicative of the set value and the number of coins to be paid out.

Further, when CPU 201 determines that the updated number of games has reached the set value for preliminary announcement, the CPU 201 thereafter transmits to the gaming machine 10, a preliminary announcement command signal for providing a preliminary announcement of the transition to the return mode, based on the counting value, each time a game is played.

[0417] Further, when the CPU 201 determines that it has received a number-of-games reset signal from the gaming machine 10, it sets the number of games to "0" (a predetermined number). The CPU 201 functions as means for receiving a reset signal indicative of the generating of a bonus game and also functions as means for setting the number of games to "0", on receiving the reset signal. Further, the processing for receiving a reset signal and the processing for setting the number of games to "0" are performed with a predetermined timing separately from a counting processing which will be described later (see Fig. 35).

[0418] Fig. 29 is a figure schematically showing an example of correspondence table between a set value and the number of payouts.

The number of coin-out "1000" in the returnmode is assigned at a set value of "600". Note that the correspondence table shown in Fig. 29 is stored on the hard disc drive 205 as data. It is not necessary for the number of coin-out set to correspond to a set value to be constantly the same, and for example, the number of coin-out set to correspond to a set value may be changeable according to a game history and the like.

[0419] Fig. 30 is a figure schematically showing another example of correspondence table between a set value and the number of payouts.

At a set value "600", " (- payment balance) x 50% (provided that the number of coin-out = 1000 if a payment balance $\geq$ 0)" is set as the number of coin-out in the return mode. Hence, if a payment balance is "-2000" when the number of games reaches 600, the number of coin-out is 1000, and if a payment balance is "-4000", the number of coin-out is 2000.

[0420] Fig. 31 is a flowchart showing a subroutine of a game execution processing in the with-insurance mode. This game execution processing corresponds to the game execution processing of the first embodiment (the processing called and executed in step S6 of the subroutine shown in Fig. 10).

In the game execution processing, the main CPU 41 at first determines whether or not a coin is BET (step S10). In the processing, the main CPU 41 determines whether an input signal output from the 1-BET switch 26S or the maximum BET switch 27S has been received or not when the 1-BET button 26 or the maximum BET button 27 is operated, respectively. If it is determined that a coin has not been BET, the process returns to step S10.

[0421] On the other hand, if it is determined in step S10 that a coin is BET, the main CPU 41 conducts a processing for subtracting the number of credits stored in RAM 43 according to the number of BET coins (step S11). In a case where the number of BET coins is more than the number of credits stored in RAM 43, the process returns to step S10 without conducting subtraction on the number of credits stored in RAM 43. In a case where the number of BET coins exceeds the upper limit (50 coins in the present embodiment) up to which a BET is possible in one game, the processing advances to step S12 without conducting a processing for subtracting the number of BET coins from the number of credits stored in RAM 43.

[0422] Then, the main CPU 41 determines whether the spin button 23 has been turned ON or not (step S12). In the processing, the main CPU 41 d determines, when the spin button 23 is pressed, whether an input signal output from the spin switch 23S has been received or not. If it is determined that the spin button 23 has not been turned ON, the processing returns to step S10. Note that in a case where the spin button has not been turned ON (for example, in a case where a command of terminating a game has been input without turning ON the spin button 23), the main CPU 41 cancels a result of the subtracting processing in step S11.

[0423] In the present embodiment, description will be given of a case in which: after a coin is BET (step S10), a processing for conducting subtraction on the number of credits (step S11) is conductedprior to the determination on whether the spin button 23 has been turned ON or not (step S12). However, the present invention is not limited to this example. For example, a processing for subtraction on the number of credits (step S11) maybe conducted after a coin is BET (step S10), determined whether the spin button 23 has been turned ON or not (step S12), and when determined that the spin button 23 has been turned ON (YES in step S12).

[0424] Meanwhile, in step S12 of Fig. 31, if it is determined that the spin button 23 has been turned ON therein, the main CPU 41 conducts a lottery processing (step S13). In the lottery processing, the main CPU 41 (processing device) executes a lottery program stored in

RAM 43 (storage device) to thereby determine a code No. of the stopped reels 14. Thus, a combination of symbols stop displayed is determined. Since description of the processing has already been given, description thereof will be omitted herein (see Figs. 13 and 14). When the processing in step S13 is executed, the main CPU 41 works as winning combination determination means for determining a winning combination by a lottery. In the present embodiment, description will be given of a case where a combination of symbols stop displayed is determined, and one winning combination of plural winning combinations is determined thereafter. However, in the present invention, one winning combination selected from plural winning combinations may at first be determined by a lottery, and the combination of symbols to be stop displayed may be determined thereafter, based on the determined winning combination.

[0425] Then, the main CPU 41 conducts a reel rotating control processing (step S14). The processing is a processing which, after all of the reels 14 starts to rotate, stops the rotating of each of the reels 14 such that a combination of symbol sequences corresponding to the winning combination determined in step S13 is stop displayed on the winning line L. Since description of the processing has already been given, description thereof will be omitted herein (see Figs. 15 to 17).

[0426] Then, the main CPU 41 determines whether a bonus game trigger has been established or not, that is whether "APPLE" is stop displayed in the display window 15 or not (step S15). If it is determined that the bonus game trigger has been established, the main CPU 41 (processing device) reads a program for conducting a bonus game from RAM 43 (storage device) to execute a bonus game processing (step S16). Here, the first special game state is generated. Detailed description of the bonus game processing will be given later by making reference to Fig. 32. When the processing in step S16 is executed, the main CPU 41 functions as means for generating the first special game state.

[0427] On the other hand, if it is determined that the bonus game trigger has not been established, the main CPU 41 determines whether a winning combination has been established or not (step S17). If it is determined that a winning combination has been established, the main CPU 41 conducts payout of a coin corresponding to the number of coin-in and the winning combination (step S18).

In a case where coins are reserved, the main CPU 41 conducts a processing to add the coins to the number of credits stored in RAM 43. On the other hand, in a case where payout of a coin is conducted, the main CPU 41 transmits a control signal to the hopper 66 and conducts payout of a predetermined number of coins. In that situation, the coin detecting section 67 counts the number of coins paid out from the hopper 66 and when the number of counts reaches a designated number, transmits a payout completion signal to the main CPU 41. Thus, the main CPU 41 stops the driving of the hopper 66 to terminate the coin payout processing.

[0428] When the processing in step S16 or S18 is executed, or when it is determined that no winning combination has been established (that a winning combination has failed to be established) in step S17, the main CPU 41 determines whether the return mode flag stored in RAM 43 is set to the state "ON" or not (step S19). If it is determined that the return mode flag has been set to the state "ON", the main CPU 41 (processing device) reads from RAM 43 (storage device) a program for shifting a game state to the return mode, executes the return mode processing, to thus shift a game state to the return mode (step S20). Here, the second special game state has been generated. Detailed description will be given of the payout return mode processing later using Fig. 33. The main CPU 41, when executing the processing in step S20, functions as means for generating the second special game state.

[0429] If the processing in step S20 has been executed, or if it is determined that the return mode flag has not been set to the state "ON" in step S19, the main CPU 41 determines whether the bonus game (step S16) has been executed or not or whether a game state has shifted to the return mode (step S20) or not (step S21).

[0430] If it is determined that a bonus game has not been executed, or that a game state has not shifted to the return mode, the main CPU 41 executes a counting processing (step S22).

The counting processing is a processing conducted between the gaming machine 10 and the control device 200. The number of coin-in and the number of coin-out for one game together with the gaming machine identification number are transmitted from the gaming machine 10 to the control device 200. In the control device 200, the number of games, an accumulative number of coin-in, an accumulative number of coin-out, the counting value and the like are updated with respect to each gaming machine identification number.

[0431] When the number of games reaches the set value for preliminary announcement, a preliminary announcement command signal indicative of the counting value is thereafter transmitted from the control device 200 to the gaming machine 10, each time a game is played. On receiving the preliminary announcement command signal, the main CPU 41 executes processing related to the preliminary announcement, such as processing for outputting an image or a sound indicative of the counting value.

[0432] When the number of games reaches the set value, a return command signal indicative of the set value and the number of coin-out is transmitted from the control device 200 to the gaming machine 10. On receiving the return command signal, the main CPU 41 sets the returnmode flag to "ON". The counting processing will later be described in detail using Fig. 35. After executing the processing in step S22, the main CPU 41 returns the processing to step S10 and games are played in the with-insurance mode thereafter.

[0433] On the other hand, when it is determined that a bonus game has been executed or a game state has shifted to the payout return mode, the present subroutine is completed and the process returns to the processing shown in Fig. 10. As a result, a player can once again select whether a game is to be played by the with-insurance mode or the without-insurance mode.

[0434] Fig. 32 is a flowchart showing a subroutine of a bonus game processing called and executed in step S16 of the subroutine shown in Fig. 31. In the bonus game processing, firstly, the main CPU 41 determines a number T of bonus games from 10 to 25 games, based on a random number value obtained by executing a random number generation program included in a lottery program stored in RAM 43 (step S60). The main CPU 41 stores as data into RAM 43 the number of games of the determined bonus games.

[0435] Next, the main CPU 41 conducts a lottery processing (step S61) and a reel rotating control processing (step S63). Since descriptions of these processing have already been given, descriptions thereof are omitted herein.

[0436] Then, the main CPU 41 determines whether a bonus game trigger has been established or not, that is, whether three "APPLE" are stop displayed in the display windows 15 or not (step S64). If it is determined that the bonus game trigger has been established, the number t of additional games of the bonus game is determined in a lottery (step S65) and the determined number t of additional games is added to the number T of games of the bonus game (step S66). Thus, when a bonus game is hit during the bonus game, a remaining number of bonus games increases. More specifically, for example, in a case where a game state shifts to 20 bonus games for the first time, and hits 17 bonus games upon conducting 12 of the bonus games, another 25 bonus games (20 bonus games - 12 bonus games + 17 bonus games) are to be conducted.

[0437] If a bonus game trigger has not been established, the main CPU 41 determines whether a winning combination has been established or not (step S67). If it is determined that the winning combination has been established, the main CPU 41 conducts payout of coins corresponding to the number of coin-in and the winning combination (step S68) . Since the processing is similar to the processing in step S18 and description thereof has already been given, the description of the present processing is omitted herein.

[0438] In a case where the processing in step S66 or S68 has been executed, or if it is determined in step S67 that any winning combination has not been established (if it is determined that a failure has occurred), the main CPU 41 reads the number T of bonus games stored in RAM 43, and one bonus game is subtracted from the read number T of bonus games. The number T of bonus games after the subtraction is again stored into RAM 43 (step S69) .

[0439] Then, the main CPU 41 determines whether the number T of bonus games reaches the number of games determined in step S60 or not (step S70). More specifically, it is determined whether the number T of games stored in RAM 43 has become 0 or not, and if the number T of games is not 0, that is, if it is determined that the number of bonus games played does not reach the number of games which were determined in step S60, the process returns to step S61 and the above-mentioned processing is repeated. On the other hand, if the number T of games is 0, that is, if it is determined that the number T of games has reached the number of games which were determined in step S60, a number-of-games reset signal is transmitted to the control device 200 (step S71), and the present subroutine is completed thereafter. The number-of-games reset signal includes the gaming machine identification information of the gaming machine 10, and CPU 201 of the control device 200, when receiving the number-of-games reset signal, resets to 0 the number of games of which is stored in the hard disc drive 205 by being made to correspond to the gaming machine identification information included in the number-of-games reset signal. At this time, CPU 201 functions as means for receiving the number-of-games reset signal indicative of the generating of a bonus game. It Further functions as means for setting the number of games to a predetermined number (0), on receiving the number-of-games reset signal.

[0440] Fig. 33 is a flowchart showing a subroutine of a return mode processing called and executed in step S20 of the subroutine shown in Fig. 31.

Firstly, themainCPU41 (processing device) extracts image data corresponding to a set value from image data as notification data which is stored in RAM 43 (storage device), conducts, based on the image data, a processing for displaying an image corresponding to a set value on the lower image display panel 16 (output device), and notifies the transition to the return mode by an image (step S80). The set value is transmitted as data to the gaming machine 10 from the control device 200 and stored in RAM 43 by step S22 of Fig. 31. Image data for notifying the transition to the return mode is read from the memory card 53 and included in a game program stored into RAM 43. In the game program, as image data for notifying the transition to the return mode, included are a plurality of image data which are made to correspond to the set values.

[0441] The main CPU 41 determines the image to be displayed on the lower image display panel 16, based on the set value stored in RAM 43. The main CPU 41 transmits to the graphic board 68 a depiction command based on the result determined. In the graphic mode 68, VDP extracts from RAM 43 image data corresponding to the set value, expands the data on the video RAM, produces image data for one frame and outputs the image data to the lower image display panel 16. As a result, for example, images as shown in Fig. 34 is displayed on the lower image display panel 16.

[0442] Fig. 34 is a figure showing an example of image

displayed on the lower image display panel when a game state shifts to the returnmode (when the second special game state is generated). Numerical reference 15 (15L, 15C and 15R) in the figure indicate display windows. An image shown in Fig. 34 is an image displayed on the lower image display panel 16 when a game state shifts to the return mode. On the lower image display panel 16, an image showing "BONUS !!", together with two images showing fireworks are displayed. An image showing "TIME OF PLAY 600" is also displayed in the lower portion of the lower image display panel 16. This image is an image showing that the number of games reached 600).

[0443] Then, the main CPU 41 (processing device) extracts from sound data as data for notification stored in RAM 43 (storage device), sound data corresponding to a set value, and based on the sound data, outputs from the speaker 29 (output device) a sound corresponding to the set value, to thereby notify transition to the return mode with a sound (step S81).

The sound data for notifying transition to the return mode is included in a game program read from the memory card 53 and stored in RAM 43. In the game program, sound data of plural kinds which are made to correspond to the set values are included as sound data which notifies that the game state has shifted to the return mode.

[0444] The main CPU 41 determines the sound output from the speaker 29, based on the set value stored in RAM 43. The main CPU 41 extracts a sound data from RAM 43, based on the result determined, and converts the sound data to a sound signal to supply the signal to the speaker 29. As a result, the speaker 29 outputs sound indicative of the generating of the return mode.

[0445] Then, the main CPU 41 conducts payout of the number of coins determined according to a set value (step S82). The number of coins in the return mode is included in the return command signal as data transmitted to the gaming machine 10 from the control device 200 in step S22 of Fig. 31. The number of coin-out in the return mode is stored as data in RAM 43 of the gaming machine 10 which received the return command signal.

[0446] In a case where coins are reserved, the main CPU 41 conducts a processing for adding the number of credits stored in RAM 43. On the other hand, in a case where the coins are to be paid out, the main CPU 41 transmits a control signal to the hopper 66 to conduct a predetermined number of coin-out. In the payout of coins, the coin detecting section 67 counts the number of coins paid out from the hopper 66 and when the number of counts reaches a designated number, and transmits a payout completion signal to the main CPU 41. The main CPU 41 thereby ceases the driving of the hopper 66 to end the coin-out processing, sets the return mode flag to the state "OFF" (step S83) thereafter, and thus the present subroutine is completed.

[0447] Fig. 35 is a flowchart showing a counting processing called and executed in step S22 of the subroutine shown in Fig. 31.

The processing is a processing conducted between the main CPU 41 of a gaming machine 10 and CPU 201 of the control device 200. Here, a set value "600" is set to each of the plural gaming machines 10 (see Fig. 28).

[0448] To begin with, the main CPU 41 transmits by the communication interface 44 the number of coin-in and the number of coin-out stored in RAM 43 together with the gaming machine identification number to the control device 200 through the communication line 101 (step S90) . The number of coin-in and the number of coin-out transmitted to the control device 200 from the gaming machine 10 are those of the game concerned.

The processing in step S90 is a processing in which the main CPU 41 (processing device) transmits the identification information of the gaming machine 10 stored in the RAM 43 (storage device) to the control device 200 through the communication line 101, each time a game is played. When the processing in step S90 is executed, the main CPU 41 functions as means for transmitting the identification information of the gaming machine 10 to the control device 200 through the communication line 101.

[0449] On the other hand, the CPU 201 of the control device 200, when receiving from the gaming machine 10 the number of coin-in, the number of coin-out and the gaming machine identification number through the communication line 101 by the communication interface 204, updates the number of games, the accumulative number of coin-in, the accumulative number of coin-out and the counting value corresponding to the received gaming machine identification number (step S1100), by choosing the data, which are made to correspond to each of the gaming machine identification numbers, of the number of games, the accumulative number of coin-in, the accumulative number of coin-out, and the counting values stored in the hard disc drive 205 (see Fig. 28). During this processing, the CPU 201 functions as means for receiving identification information of the gaming machine from the gaming machine 10. The CPU 201 further functions as means for accumulatively counting the number of games, based on the identification information of the gaming machine.

[0450] Then, CPU 201 determined whether or not the number of games after the updating is equal to or greater than the set value for preliminary announcement (step S1140) . If it is determined that the number of games after the updating is not equal to or greater than the set value for preliminary announcement, it transfers the processing to step S101.

[0451] On the other hand, when it is determined in step S1140 that the updated number of games is equal to or greater than the set value for preliminary announcement, the CPU 201 transmits to the gaming machine 10 by the communication interface 204, and through the communication line 101 a set value for preliminary announcement indicative of the counting value (step S1141). During this processing, the CPU 201 functions as means for transmitting a preliminary announcement command sig-

nal for causing the gaming machine 10 to notify the counting value, each time a game is played after the number of games reached the set value for preliminary announcement.

[0452] On receiving the preliminary announcement command signal transmitted from the control device 200 in step S1141, the main CPU 41 of the gaming machine 10 executes a processing for extracting image data corresponding to the counting value out of image data which is stored as notification data in the RAM 43 and displaying an image corresponding to the counting value on the lower image display panel 16, based on the extracted image data, to provide a preliminary announcement that the game mode will shift to the return mode when the number of games designated by the counting value is played (step S1132). The counting value is transmitted as data from the control device 200 to the gaming machine 10 and then stored in the RAM 43, through step S1141. The image data for notifying the counting value is included in the game program, which has been read from the memory card 53 and stored in the RAM 43. This game program includes, as image data for notifying the counting values, plural types of image data made to correspond to counting values. In step S1132, the main CPU 41 functions as means for receiving a preliminary announcement command signal transmitted from the control device 200.

[0453] The main CPU 41 determines the image to be displayed on the lower image display panel 16, based on the counting value stored in the RAM 43. The main CPU 41 transmits a depiction command based on the result of the determination to the graphic board 68. On the graphic board, VDP extracts image data corresponding to the counting value from RAM 43 and expands the data on the video RAM to produce image data for one frame and to output the image data to the lower image display panel 16, based on the depiction command. As a result, for example, images as shown in Figs. 36A and 36B are displayed on the lower image display panel 16.

[0454] Figs. 36A and 36B are figures showing examples of images displayed on the lower image display panel during games after the number of games has reached a set value for preliminary announcement. In the figure, numerical reference 15 (15L, 15C and 15R) indicates display windows.

In Fig. 36A, an image showing "BONUS CHANCE!" is displayed on the lower image display panel 16. Further, an image indicating "50 MORE PLAYS" is displayed at the lower portion of the lower image display panel 16. This image is an image for providing a preliminary announcement that the game mode will shift to the return mode after 50 more games are played, and also is an image displayed when a preliminary announcement command signal indicative of a counting value of 50 has been received.

[0455] Fig. 36B is a figure showing an example of image displayed on the lower image display panel during the next game to the game in which the image illustrated in Fig. 36A is displayed.

In Fig. 36B, an image showing "BONUS CHANCE!" is displayed on the lower image displaypanel 16. Further, an image indicating "49 MORE PLAYS" is displayed at the lower portion of the lower image display panel 16. This image is an image for providing a preliminary announcement that the game mode will shift to the return mode after 49 more games are played, and also is an image displayed when a preliminary announcement command signal indicative of a counting value of 49 has been received.

[0456] As described above, in the gaming machine 10, after the number of games reaches the set value for preliminary announcement, the counting value is displayed on the lower image display panel 16 each time a game is played. Namely, by the performing of a countdown each time a game is played, it is notified that the game mode will shift to the return mode, to provide the player with a preliminary announcement. When executing the processing in step S132, the main CPU 41 functions as means for notifying the counting value by outputting an image to the lower image display panel 16 of which is an output means, each time a game is played, after the number of games reaches the set value for preliminary announcement.

[0457] Next, the main CPU 41 (processing device) executes a processing for extracting sound data corresponding to the counting value out of the sound data as notification data stored in the RAM 43 (storage device) and outputting sound corresponding to the counting value from the speaker 29 (output device) based on the extracted sound data to provide a preliminary announcement that the game mode will shift to the return mode after the number of games indicated by the counting value are played (step S133) . In step S133, when the counting value is in the range of 31 to 50, the counting value is notified by sound. Further, in addition to the notification of the counting value with sound, when the counting value becomes equal to or less than 30, the sound effect which is output in conjunction with the rotating of the reels is changed to a sound effect specific to counting values of 30 or less. Thus, in the case where the notification of the counting value is provided each time a game is played, and further when the counting value satisfies a predetermined condition such as the counting value becoming equal to or less than a predetermined value (30), expectations can be risen by adding acoustic change to the notification of the counting value.

The sound data for notifying the counting value is included in the game program which is read from the memory card 53 and stored in the RAM 53. This game program includes, as sound data for notifying the counting value, plural types of sound data which are made to correspond to the counting value.

[0458] The main CPU 41 determines sound to be output from the speaker 29, based on the counting value stored in the RAM 43. Then, the main CPU 41 extracts sound data from the RAM 43 based on the determined result, then converts the extracted sound data to sound

signal and supplies it to the speaker 29. As a result, the speaker 29 outputs sound notifying the counting value. When executing the processing in step S133, the main CPU 41 functions as means for notifying the counting value by outputting sound from the speaker 29 which is an output means, each time a game is played, after the number of games reaches the set value for preliminary announcement.

[0459] On the other hand, when the number of games has not reached the set value for preliminary announcement (NO in step S140) or after the processing in step S141, the CPU 201 of the control device 200 determines whether or not the updated number of games has reached the set value (step S101). When it is determined that the updated number of games has not reached the set value, the present subroutine is completed.

[0460] On the other hand, when it is determined in step S101 that the updated number of games has reached the set value, the CPU 201 transmits, by the communication interface 204, through the communication line 101, to the gaming machine 10 in which the number of games has reached the set value, a return command signal indicative of the set value and the number of payout (step S103) . During this processing, the CPU 201 functions as, when the number of games reaches the set value, means for transmitting a command signal for transition to the return mode.

Then, the CPU 201 resets to 0 the number of games stored in the hard disk drive 205 which is made to correspond to the gaming machine identification number of the concerned gaming machine 10 (step S104). Then, the present processing is terminated.

[0461] On receiving the return command signal in step S103, transmitted from the control device 200, the main CPU 41 of the gaming machine 10 sets the return mode flag to "ON" (step S91) . The processing in step S91 is a processing for receiving a command signal transmitted from the control device 200, when the number of games accumulatively counted by the control device 200 based on the identification information of the gaming machine 10, reaches the set value that is an object of comparison with the number of games. In step S91, the main CPU 41 functions as means for receiving the command signal transmitted from the control device 200. Thereafter, the main CPU 41 stores in the RAM 43, data indicative of the set value and the number of payout included in the return command signal (step S92). Then, the present processing is terminated.

[0462] In the present embodiment, there has been described the case where the control device 200 transmits a return command signal indicative of the set value and the number of payout (step S103). However, in the present invention, the return command signal (command signal) is not particularly limited and may be any signal which shows that the second special game state has been generated. In the case where the control device 200 transmits a return command signal which is not indicative of the number of payout, data indicative of the number of payout may be stored in advance in the gaming machine 10.

[0463] In the present embodiment, description has been given of a case where a game state shifts to the return mode when the number of games reaches a set value (see Fig. 35). The present invention is, however, not limited to this example. For example, in a case where the number of inserted game media for a game played by the player is at the upper limit value that can be accepted in one game when the number of games reaches the set value, the second special game state may be generated (the game state shifts to the return mode). This is because in such a case, a player can be urged to insert game media up to the upper limit and a facility such as a casino and the like can increase a profit.

Moreover, in a case where the second special game state is generated when the number of inserted game media is at the upper limit value, the second special game state may be generated not when the number of games reaches the set value, but when the number of inserted game media is at the upper limit value for a game played by a player when the number of games in which insertion of game media is conducted to the upper limit value reaches a set value. This is because, in such a case, it can be prevented from a small number of game media to be inserted in a game, thereby leading to a fact that the second special game state is generated by the spending of only a small number of game media in total.

[0464] A gaming machine 10 according to the present embodiment includes: the main CPU 41 (processing device) ; RAM 43 (storage device) ; the lower image display panel 16 (output device); and the speaker 29 (output device), is a gaming machine 10 connected through the communication line 101 to the control device 200 which accumulatively counts the number of games in each gaming machine 10 of plural gaming machines 10, and wherein the main CPU 41 executes: a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in RAM 43 (see Fig. 13); a processing reading from RAM 43 a program for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger", and executing the program (see Fig. 32) ; a processing transmitting through the communication line to the control device 200 the identification information of the gaming machine 10 stored in RAM 43 each time a game is played (step S90 in Fig. 35) ; a processing for receiving a command signal transmitted from the control device when the number of games accumulatively counted, based on the identification information of the gaming machine, by the control device 200 reaches a set value that is an object of comparison with the number of games, and that is selected from plural candidate values stepwise determined in advance (step S91 in Fig. 35); a processing reading from RAM 43 a program for performing transition to the return mode (the generating of the second special game state) based on

the command signal, and executing the program (see Fig. 33); a processing receiving a preliminary announcement command signal transmitted from the control device 200 each time a game is played after the number of games reaches a set value for preliminary announcement which is smaller by a predetermined value than the set value (step S1132 in Fig. 35) ; and a processing reading from RAM 43 notification data for notifying a counting value indicative of the number of games required to reach the set value, and executing a processing to output an image on the lower image display panel 16 and output a sound from the speaker 29, based on the notification data (see Fig. 35).

[0465] A gaming machine 10 is connected through the communication line 101 to the control device 200 which accumulatively counts the number of games for each gaming machine 10 of plural gaming machines 10 wherein: provided are output means (for example, the lower image display panel and the speaker 29) capable of outputting an image or a sound; winning combination determination means (for example, the main CPU 41) for determining a winning combination by lottery; means (for example, the main CPU 41) for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger"; means (for example, the main CPU 41) for transmitting the identification information of the gaming machine 10 through the communication line 101 to the control device 200 each time a game runs; means (for example, the main CPU 41) for receiving a command signal transmitted from the control device 200 when the number of games accumulatively counted by the control device 200 based on the identification information of the gaming machine reaches a set value selected from plural candidate values stepwise determined in advance; means (for example, the main CPU 41) for generating the second special game state based on the command signal; means (for example, the main CPU 41) for receiving a preliminary announcement command signal transmitted from the control device 200 each time a game is played, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value; and means (for example, the main CPU 41) for notifying a counting value indicative of the number of games required to reach the set value, by outputting an image or a sound to the output means.

[0466] According to the gaming machine 10, a game state shifts to the return mode by receiving a command signal transmitted from the control device 200 when the number of games counted in the control device 200 reaches a set value that is an object of comparison with the number of games. Hence, even in a case where many coins are spent without the generating of the first special game state for a long period, the game state shifts to the return mode if the game is played until the number of games reaches a set value, and a player can earn a profit from the game.

[0467] After the number of games reaches the set value for preliminary announcement (for example, "550") which is smaller by a predetermined value (for example, "50") than the set value (for example, "600"), the gaming machine 10 notifies a counting value indicative of the required number of games to reach the set value by outputting an image to the lower image display panel 16 and outputting sound from the speaker 29, each time a game is played. Therefore, a player can recognize how many more games are required to be played for generating the second special game state, by a countdown being performed with the image or the sound for each single game (1 game). As a result, an impression can be made on the player that a return is carried out as a result of playing the game such that the number of games reaches the set value, and it can also prevent a situation that the player cannot get any return from occurring.

[0468] Therefore, it can be prevented for a player who has spent many of game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0469] The control device 200 according to the present embodiment is a control device which is provided with a CPU 201 (processing device) and is connected to plural gaming machines 10 through the communication line 101, wherein the CPU 201 executes a processing receiving identification information of the gaming machine from a gaming machine 10 through the communication line 101, each time a game is played therein (see Fig. 35), a processing accumulatively counting the number of games, based on the identification information of the gaming machines (see step S1100 in Fig. 35), a processing receiving from the gaming machine 10 through the communication line 101 a reset signal which shows that the bonus game (first special game state) has been generated when a bonus game (first special game state) is generated, a processing setting the number of games to "0" (a predetermined number) when receiving the reset signal, a processing transmitting, when the number of games reaches a set value that is an object of comparison with the number of games, a command signal for generating the second special game state (see step S103 in Fig. 35), and a processing transmitting a preliminary announcement command signal so that the gaming machine 10 can notify, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, a counting value which shows the required number of games to reach the set value, each time a game is played (step S1141 in Fig. 35).

[0470] Further, the control device 200 is a control device 200 connected with plural gaming machines 10 through a communication line 101 comprising: means (for example, the CPU 201) for receiving identification information of the gaming machine from the gaming machine 10 through the communication line 101, each time a game is played; means (for example, the CPU 201) for accumulatively counting the number of games, based on

the identification information of the gaming machine; means (for example, the CPU 201) for receiving from the gaming machine 10 through the communication line 101, when a bonus game (first special game state) is generated, a reset signal which shows that the bonus game has been generated; means (for example, the CPU 201) for setting the number of games to "0" (a predetermined number), when receiving the reset signal; means (for example, the CPU 201) for transmitting, when the number of games reaches a set value that is an object of comparison with the number of games, a command signal for generating a second special game state; and means (for example, the CPU 201) for transmitting a preliminary announcement command signal so that the gaming machine 10 can notify, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, of a counting value which shows the required number of games to reach the set value, each time a game is played.

[0471] The control device 200, each time a game is played, receives the gaming machine identification information from a gaming machine 10 through the communicationline 101 and, accumulatively counts the number of games based on the received identification information. When the number of games reaches a set value that is an object of comparison with the number of games, transmitted is a command signal for generating the second special game state and the second special game state is thereafter generated in the gaming machine 10. Hence, even if a bonus game (the first special game state) is not generated for a long period leading to the spending of many of coins, the second special game state is generated as long as the game is played such that the number of games reaches the set value and thus a player can make profit for playing the game.

[0472] The gaming machine 10 according to the present embodiment is connected to the control device 200 through the communication line 101, and by the control device 200, the number of games in the gaming machine 10 is counted, and determination is made on whether or not the number of games has reached the set value for preliminary announcement. The gaming machine 10 is not required to use a network and may be standalone.

[0473] A standalone gaming machine 10 according to the present invention includes: the main CPU 41 (processing device), RAM 43 (storage device), the lower image display panel 16 (output device) and the speaker 29 (output device), wherein the main CPU 41 executes: a processing determining one winning combination selected from plural winning combination determined in advance by executing a lottery program stored in RAM 43; a processing reading from RAM 43 a program for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger", and executing the program; a processing accumulatively counting the number of games each time a game is played; a processing selecting a set value from plural candidate values stepwise determined in advance; a processing determining whether the number of games reaches a set value or not; a processing reading from RAM 43 a program for executing transition to the return mode (the generating of the second special game state) when it is determined that the number of games has reached the set value, and executing the program; and a processing reading from RAM 43, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, notification data for notifying a counting value which shows the required number of games to reach the set value, and conducting output of an image to the lower image display panel 16 or output of a sound from the speaker 29, based on the notification data, each time a game is played.

[0474] The gaming machine 10 includes: output means (for example, the lower image display panel 16 and the speaker 29) capable of outputting an image or a sound; winning combination determination means (for example, the main CPU 41) for determining a winning combination by a lottery; means (for example, the main CPU 41) for generating a bonus game when the determined winning combination is a special winning combination, "bonus game trigger"; means (for example, the main CPU 41) for accumulatively counting the number of games each time a game is played; means (for example, the main CPU 41) for selecting a set value from plural candidate values stepwise determined in advance; means (for example, main CPU 41) for determining whether the number of games reaches a set value or not; means (for example, the main CPU 41) for conducting transition to the return mode (the generating of the second special game state) when the number of games is determined to have reached a set value; and means (for example, the main CPU 41) for notifying, after the number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than the set value, notification data for notifying a counting value which shows the required number of games to reach the set value, and conducting output of an image to the lower image display panel 16 or output of a sound from the speaker 29, based on the notification data, each time a game is played.

[0475] The gaming machine 10 may further be provided with means (for example, the main CPU 41) for setting the number of games to a predetermined value when the first special game state is generated. With this gaming machine 10, since the number of games is set to a predetermined number (for example, "0") when the bonus game is generated, it can be prevented for a player who has obtained a profit by the generated bonus game from obtaining an excessive return.

[0476] Further, although the gaming machine 10 according to the present embodiment provides a preliminary announcement of (notifies with countdown) the transition to the returnmode (that the second special game state is generated), each time a game is played after the number of games has reached the set value for prelimi-

nary announcement, the present invention is not limited to this example. The gaming machine 10 according to the present invention may provide a preliminary announcement of the transition to the return mode (that the second special game state is generated), each time a game is played after the payment balance in terms of coins has reached the set value for preliminary announcement.

[0477] Such a gaming machine 10 includes: the main CPU 41 (processing device) ; RAM 43 (storage device), the lower image display panel 16 (output device); and the speaker 29 (output device), and is connected through the communication line 101 to the control device 200 which accumulatively counts the payment balance in terms of coins in each gaming machine 10 of plural gaming machines 10, and wherein the main CPU 41 executes: a processing determining one winning combination selected from plural winning combinations determined in advance by executing a lottery program stored in RAM 43; a processing reading from RAM 43 a program for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger", and executing the program; a processing transmitting through the communication line 101 to the control device 200 the number of coin-in and the number of coin-out in one game which is stored in RAM 43, together with the identification information of the gaming machine 10, each time a game is played; a processing receiving a command signal transmitted from the control device 200 when, a payment balance in terms of coins accumulatively counted by the control device 200 based on the identification information of the gaming machine 10, the number of coin-in and the number of coin-out in the game reaches a value equal to or less than a set value selected from plural candidate values stepwise determined in advance; a processing reading from RAM 43, based on the command signal, a program for conducting transition to the returnmode (the generating of the second special game state), and executing the program; a processing receiving, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a preliminary announcement command signal transmitted from the control device 200 each time a game is played; and a processing reading from RAM 43, based on the preliminary announcement command signal, notification data for notifying a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value, and conducting output of an image to the lower image display panel 16 or output of a sound from the speaker 29 based on the notification data.

[0478] The gaming machine 10 includes: an output means (for example, the lower image display panel 16 and the speaker 29) capable of outputting an image or a sound; winning combination determination means (for example, the main CPU 41) for determining a winning combination by a lottery; means (for example, the main CPU 41) for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger"; means (for example, the main CPU 41) for transmitting through the communication line 101 to the control device 200 a payment balance in terms of coins in a game played, together with the identification information of the gaming machine 10, each time a game is played; means (for example, the main CPU 41) for receiving a command signal transmitted from the control device 200 when the payment balance in terms of coins accumulatively counted by the control device 200 based on the identification information of the gaming machine 10 and the payment balance in terms of coins in the game played reaches a set value selected from plural candidate values stepwise determined in advance; means (for example, the main CPU 41) for conducting transition to the return mode (the generating of the second special game state), based on the command signal; means (for example, the main CPU 41) for receiving, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, a preliminary announcement command signal transmitted from the control device 200 each time a game is played; and means (for example, the main CPU 41) for notifying, based on the preliminary announcement command signal, a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value, and conducting output of an image to the lower image display panel 16, or output of a sound from the speaker 29.

[0479] According to such a gaming machine 10, the game state shifts to the return mode, by the receiving of a command signal which is transmitted from the control device 200 when the payment balance in terms of coins counted by the control device 200 becomes equal to or less than a set value that is an object of comparison with the payment balance in terms of coins. Further, when a preliminary announcement command signal, which is transmitted from the control device 200 each time a game is played, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, the gaming machine 10 notifies a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value, by outputting an image to the lower image display panel 16 or outputting a sound from the speaker 29. Therefore, it can be prevented for a player who has spent many of game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game.

[0480] The above-mentioned gaming machine 10 is connected to the control device 200 through the communication line 101, and by the control device 200, the pay-

ment balance in terms of coins in the gaming machine 10 is counted, and determination is made on whether or not the payment balance in terms of coins has reached the set value for preliminary announcement. The gaming machine 10 is not required to use a network and may be standalone.

[0481] Such a gaming machine 10 includes: the main CPU 41 (processing device); RAM 43 (storage device); the lower image display panel 16 (output device); and the speaker 29 (output device), wherein the main CPU 41 executes: a processing determining one winning combination selected fromplural winning combinations determined in advance by executing a lotteryprogram stored in RAM 43; a processing reading from RAM 43 a program for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger", and executing the program; a processing accumulatively counting a payment balance in terms of game media each time a game is played; a processing selecting a set value that is an object of comparison with a payment balance in terms of game media, from plural candidate values stepwise determined in advance; a processing determining whether a payment balance in terms of game media is equal to or less than a set value or not; a processing reading from RAM 43 a program for conducting transition to the return mode (the generating of the second special game state) when it is determined that a payment balance in terms of game media is equal to or less than a set value, and executing the program; and a processing reading from RAM 43, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, notification data for notifying a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value, and conducting output of an image to the lower image display panel 16 or output of a sound from the speaker 29 based on the notification data, each time a game is played.

[0482] This gaming machine 10 includes: output means (for example, the lower image display panel 16 or the speaker 29) capable of outputting an image or a sound; winning combination determination means (for example, the main CPU 41) for determining a winning combination by a lottery; means (for example, the main CPU 41) for generating a bonus game (the first special game state) when the determined winning combination is a special winning combination, "bonus game trigger"; means (for example, the main CPU 41) for accumulatively counting a payment balance in terms of game media, each time a game is played; means (for example, the main CPU 41) for selecting a set value from plural candidate values stepwise determined in advance; means (for example, the main CPU 41) for determining whether a payment balance in terms of game media is equal to or less than a set value or not; means (for example, the main CPU 41) for conducting transition to the return mode (the generating of the second special game state) when it is determined that the payment balance in terms of game media is equal to or less than a set value; and means (for example, the main CPU 41) for notifying that, after the payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than the set value, notification data for notifying a counting value which shows the required number of game media for causing the payment balance in terms of the game media to become equal to or less than the set value, and conducting output of an image to the lower image display panel 16 or output of a sound from the speaker 29 based on the notification data, each time a game is played.

[0483] In the present embodiment, there has been described a case where the set values for all the gaming machines 10 are defined as "600". However, in the present invention, different set values may be defined for each of the gaming machines 10 and, for example, the set values may be selected from plural candidate values stepwise determined in advance. When the above-mentioned embodiment is applied to the gaming machines 10, for example, Figs. 37 to 39 may be utilized as alternatives of the correspondence tables illustrated in Figs. 28 to 30, and the processing illustrated in Fig. 40 may be executed instead of the processing in Fig. 35. Furthermore, description of images displayed on the lower image display panel during games after the number of games has reached the set value for preliminary announcement, when the above-mentioned embodiment is applied to the gaming machines 10, will be given by using Fig. 41.

[0484] Fig. 37 is a figure schematically showing another example of correspondence table between a gaming machine identification number and a game history.

Each of the gaming machine identification numbers correspond to a game history based on the number of games, an accumulative number of coin-in, an accumulative number of coin-out, a payment balance in terms of the coins and a return rate of coin-out.

[0485] Further, a set value that is an object of comparison with the number of games is defined for each of the gaming machine identification numbers.

These set values are selected fromplural candidate values "600", "1200" and "2400", stepwise determined in advance.

[0486] Further, a set value for preliminary announcement which is smaller by a predetermined value than the set value is defined for each of the gaming machine identification numbers. When the set value is "600", the set value for preliminary announcement is "550" which is smaller than the set value "600" by a predetermined value "50". When the set value is "1200", the set value for preliminary announcement is "1125" which is smaller than the set value "1200" by a predetermined value "75". When the set value is "2400", the set value for preliminary announcement is "2300" which is smaller than the set value "2400" by a predetermined value "100". Thus, the

set value for preliminary announcement is defined depending on the selected set value. As described above, the set value for preliminary announcement is defined such that the predetermined value is larger with a larger set value.

[0487] For the gaming machine 10 with a gaming machine identification number of "001", defined are a set value of "600" and a set value for preliminary announcement of "550". For the gaming machine 10 with a gaming machine identification number of "002", defined are a set value of "1200" and a set value for preliminary announcement of "1125". For the gaming machine 10 with a gaming machine identification number of "003", defined are a set value of "2400" and a set value for preliminary announcement of "2300".

[0488] Further, each of the gaming machine identification numbers are made to correspond to a counting value indicative of the required number of games to reach the set value.

The gaming machine 10 with a gaming machine identification number of "001" corresponds to a counting value of "50" since the set value is "600" and the number of games is "550". The gaming machine 10 with a gaming machine identification number of "002" corresponds to a counting value of "70" since the set value is "1200" and the number of games is "1130". The gaming machine 10 with a gaming machine identification number of "003" corresponds to a counting value of "100" since the set value is "2400" and the number of games is "2300".

[0489] Fig. 38 is a figure schematically showing yet another example of correspondence table between a set value and the number of payouts.

The number of coin-out "1000" in the returnmode is assigned at a set value of "600". The number of coin-out "2000" in the return mode is assigned at a set value of "1200". The number of coin-out "4000" in the return mode is assigned at a set value of "2400". Since, in the present embodiment, the number of coin-out in the payout return mode is larger the larger a set value is, a profit matching the number of games played by a player is given to the player in the return mode. Therefore, it can be prevented for a player who has spent many of the game media from feeling unpleasant against the game, building up distrust thereto, or losing interest in or a concern on the game. Note that the correspondence table shown in Fig. 38 is stored on the hard disc drive 205 as data.

[0490] It is not necessary for the number of coin-out set to correspond to a set value to be constantly the same, and for example, the number of coin-out set to correspond to a set value may be changeable according to a game history and the like.

Fig. 39 is a figure schematically showing another example of correspondence table between a set value and the number of payouts.

At a set value "600", " (-payment balance) x 50% (provided that the number of coin-out = 1000 if a payment balance ≥ 0)" is set as the number of coin-out in the return mode. Hence, if a payment balance is "-2000" when the number of games reaches 600, the number of coin-out is 1000, and if a payment balance is "-4000", the number of coin-out is 2000. At a set value "1200", "(- payment balance) x 60% (provided that the number of coin-out = 2000 if payment balance ≥ 0) " is set as the number of coin-out in the return mode. At a set value "2400", " (-payment balance) x 70% (provided that the number of coin-out = 4000 if payment balance ≥ 0)" is set as the number of coin-out in the return mode.

[0491] Fig. 40 is a flowchart showing another subroutine of a counting processing. In the flowchart shown in Fig. 40, the same numerical references are assigned to steps which conduct processing similar to those in the flowchart shown in Fig. 35.

Here, one set value selected from plural candidate values "600", "1200" and "2400" stepwise determined in advance is set to each of the plural gaming machines 10 (see Fig. 37).

[0492] After the processing in step S1100, step S1140 and step S1141, the CPU 201 of the control device 200 determines whether or not the updated number of games has reached the set value (step S101). When it is determined that the updated number of games has not reached the set value, the present subroutine is completed.

[0493] On the other hand, if it is determined in step S101 that the number of games after the updating has reached the set value, CPU 201 determines the number of coin-out corresponding to the set value, based on a correspondence table (see Fig. 38) between the set value and the number of coin-out stored in the hard disc drive 205 (step S102).

[0494] Then, CPU 201 transmits through the communication line 101 by the communication interface 204 to the gaming machine 10 in which the number of games has reached the set value, a return command signal showing the set value and the number of payout coins (step S103). Thereafter, CPU 201 resets to 0 the number of games stored in the hard disc drive 205 which are made to correspond to the gaming machine identification number of the gaming machine 10 (step S104). In succession thereto, CPU 201 selects a new set value by lottery and the selected set value is stored in the hard disc drive 205, being made to correspond to the gaming machine identification number of the concerned gaming machine 10 (step S105).

[0495] The main CPU 41 of the gaming machine 10, when receiving the return command signal transmitted from the control device 200 in step S103, sets the return mode flag to the state "ON" (step S91). The processing in step S91 is a processing for receiving a command signal transmitted from the control device 200 when the number of games accumulatively counted by the control device 200 based on the identification information of the gaming machine 10 reaches a set value selected from plural candidate values stepwise determined in advance. The main CPU 41 thereafter stores into RAM 43 data showing the set value and the number of payout coins,

included in the return command signal (step S92). Thereafter, the present processing is terminated. Since the other processing are processing similar to those described in Fig. 35, descriptions thereof are omitted here.

[0496] Figs. 41A to 41C are figures showing examples of images displayed on the lower image display panel during games after the number of games has reached a set value for preliminary announcement. In the figure, numerical reference 15 (15L, 15C and 15R) indicates display windows.

In Fig. 41A, an image showing "BONUS CHANCE!" is displayed on the lower image display panel 16. Further, image indicating "50 MORE PLAYS" and "TO 600 PLAY" are displayed at the lower portion of the lower image display panel 16. This image is an image for providing a preliminary announcement that the game mode will shift to the return mode based on 600 games after 50 more games are played, and also is an image displayed when a preliminary announcement command signal indicative of a counting value of 50 has been received.

[0497] Fig. 41B is a figure showing an example of image displayed on the lower image display panel during the next game to the game in which the image illustrated in Fig. 41A is displayed.

In Fig. 41B, an image showing "BONUS CHANCE!" is displayed on the lower image display panel 16. Further, image indicating "49 MORE PLAYS" and "TO 600 PLAY" are displayed at the lower portion of the lower image display panel 16. This image is an image for providing a preliminary announcement that the game mode will shift to the return mode based on 600 games after 49 more games are played, and also is an image displayed when a preliminary announcement command signal indicative of a counting value of 49 has been received.

[0498] In Fig. 41C, an image showing "BONUS CHANCE!" is displayed on the lower image display panel 16. Further, image indicating "100 MORE PLAYS" and "TO 2400 PLAY" are displayed at the lower portion of the lower image display panel 16. This image is an image for providing a preliminary announcement that the game mode will shift to the return mode based on 2400 games after 100 more games are played, and also is an image displayed when a preliminary announcement command signal indicative of a counting value of 100 has been received.

[0499] As described above, when a preliminary announcement of the transition to the return mode is provided based on a set value of "600", the countdown notification is started with a counting value of 50, while in the case when a preliminary announcement of the transition to the return mode based on a set value of "2400" which is higher in the degree of advantage than the return mode based on a set value of "600", the countdown notification is started with a counting value of 100, thereby causing the player to be amused by the countdown for a longer time until the game state shifts to the return mode which is high in the degree of advantage. For example, the player can wish that a bonus game (the first special game state) will not be generated to make the countdown to be reset.

[0500] Further, after the number of games has reached the set value for preliminary announcement, information about the stage of the set value related to the concerned notification ("TO 600 PLAY", "TO 2400 PLAY" and the like) is notified together with the counting value, each time a game is played, by including the information in the content of notification. Accordingly, when it is notified by countdown that the game mode will shift to the return mode based on the set value "600" (that the second special game state to be generated is low in the degree of advantage corresponding to the set value), even if a bonus game (the first special game state) is generated before the transition to the return mode (before the second special game state), the player will hardly be exasperated. However, when a bonus game is generated before the transition to the return mode at the time when it is notified by countdown that the game mode will shift to the return mode based on a set value of "2400" (that the second special game state to be generated is high in the degree of advantage corresponding to the set value), this will significantly exasperate the player since the countdown will be restarted. Thus, it is possible to induce changeful psychological states.

[0501] In the present embodiment, there has been described a case where, after the number of games has reached the set value for preliminary announcement, a preliminary announcement command signal is received, each time a game is played. However, the present invention is not limited to such a case. For example, the gaming machine may receive a preliminary announcement command signal indicative of a counting value only at the time of the game at which the number of games reaches the set value for preliminary announcement. With this configuration, the number of games may be counted by the gaming machine 10 (the main CPU 41), after receiving a preliminary announcement command signal, and an image or a sound corresponding to the counting value may be output thereby.

[0502] Although the embodiment according to the present invention has been described, the description presents only some of the specific examples, and is not intended to limit the present invention in any way and specific constructions of each means and the like can be properly changed in terms of design. Besides, the effects described in the embodiment of the present invention are only the most preferable effects generated from the present invention and effects to be caused by the present invention is not limited to those described in the embodiment of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0503]

Fig. 1 is a schematic diagram showing the entire construction of a game system according to the first em-

bodiment of the present invention;
Fig. 2 is a perspective view schematically showing a gaming machine according to the first embodiment of the present invention;
Fig. 3 is a schematic view showing the symbol sequence depicted on the outer circumferential surface of each reel;
Fig. 4 is a block diagram showing the internal construction of the gaming machine shown in Fig. 2;
Fig. 5 is a block diagram showing the internal construction of a control device according to the first embodiment of the present invention;
Fig. 6 is a figure schematically showing an example of correspondence table between a gaming machine identification number and a game history;
Fig. 7 is a figure schematically showing an example of correspondence table between a set value and the number of payouts;
Fig. 8 is a figure schematically showing another example of correspondence table between a set value and the number of payouts;
Fig. 9 is a flowchart showing a procedure in an authentication reading processing for a game program and a game system program executed by a mother board and a gaming board shown in Fig. 4;
Fig. 10 is a flowchart showing a subroutine of a game mode selection processing;
Figs. 11A and 11B are figures showing an image displayed on the lower image display panel when a game mode selection processing is executed;
Fig. 12 is a flowchart showing a subroutine of a game execution processing;
Fig. 13 is a flowchart showing a subroutine of a lottery processing;
Fig. 14 is a figure describing a relationship among winning combinations of plural kinds, establishment possibility of each winning combination and the number of coin-out in the present embodiment;
Fig. 15 is a flowchart showing a subroutine of a reel rotating control processing;
Figs. 16A to 16D are side views for describing a rotating operation of the reel;
Fig. 17 is a schematic diagram showing a correspondence table between the number of steps and the code No.;
Fig. 18 is flowchart showing a subroutine of a bonus game processing;
Fig. 19 is a flowchart showing a subroutine of a return mode processing;
Figs. 20A to 20C are figures showing an example of image displayed on the lower image display panel when a game state shifts to the return mode (when the second special game state is generated);
Fig. 21 is a flowchart showing a subroutine of a counting processing;
Figs. 22 is figure showing an example of image displayed on the lower image display panel when the number of games reaches a set value for preliminary announcement;
Fig. 23 is a flowchart showing another example of a subroutine of a counting processing;
Fig. 24 is a flowchart showing another example of a subroutine of a game execution processing.
Fig. 25 is a schematic diagram showing the entire construction of a game system according to the second embodiment of the present invention;
Fig. 26 is a block diagram showing the internal construction of the gaming machine according to the second embodiment of the present invention;
Fig. 27 is a block diagram showing the internal construction of a control device according to the second embodiment of the present invention;
Fig. 28 is a figure schematically showing an example of correspondence table between a gaming machine identification number and a game history;
Fig. 29 is a figure schematically showing an example of correspondence table between a set value and the number of payouts;
Fig. 30 is a figure schematically showing another example of correspondence table between a set value and the number of payouts;
Fig. 31 is a flowchart showing a subroutine of a game execution processing;
Fig. 32 is flowchart showing a subroutine of a bonus game processing;
Fig. 33 is a flowchart showing a subroutine of a return mode processing;
Fig. 34 is a figure showing an example of image displayed on the lower image display panel when a game state shifts to the return mode (when the second special game state is generated) ;
Fig. 35 is a flowchart showing a subroutine of a counting processing;
Figs. 36A and 36B are figures showing examples of images displayed on the lower image display panel during games after the number of games has reached a set value for preliminary announcement;
Fig. 37 is a figure schematically showing another example of correspondence table between a gaming machine identification number and a game history;
Fig. 38 is a figure schematically showing yet another example of correspondence table between a set value and the number of payouts;
Fig. 39 is a figure schematically showing another example of correspondence table between a set value and the number of payouts;
Fig. 40 is a flowchart showing another subroutine of a counting processing; and
Figs. 41A and 41C are figures showing examples of images displayed on the lower image display panel during games after the number of games has reached a set value for preliminary announcement.

EXPLANATION OF SYMBOLS

[0504]

10 Gaming machine (slot machine)
11 Cabinet
12 Top box
13 Main door
14 (14L, 14C, 14R) Reel
15 (15L, 15C, 15R) Display window
16 Lower image display panel
18 Coin tray
19 Coin payout exit
20 Control panel
21 Coin receiving slot
22 Note identifier
23 Spin button
24 Change button
25 CASHOUT button
26 1-BET button
27 Maximum BET button
29 Speaker
30 Lamp
31 Number-of-credits display section
32 Number-of-payouts display section
33 Upper image display panel
34 Belly glass
35 Ticket printer
36 Card reader
37 Data display
38 Key pad
39 Ticket with a bar code
40 Mother board
41 Main CPU
42 ROM
43 RAM
44 Communication interface
45 Power supply unit
50 Gaming board
51 CPU
52 Boot ROM
53 Memory card
54 GAL
60 Body PCB
61 Sub CPU
62 Motor driving circuit
63 FPGA
64 Driver
65 Index detecting circuit
66 Hopper
67 Coin detecting section
68 Graphic board
69 Touch panel
70 (70L, 70C, 70R) Stepping motor
71 Position change detecting circuit
80 Door PCB
81 Cold cathode tube
100 Game system
200 Control device

Claims

1. A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with said number of games, generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state; and
means for providing, by outputting an image or a sound to said output means while said number of games is to reach said set value, a preliminary announcement that the second special game state will be generated when said number of games reaches said set value.

2. A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with said number of games, and that is selected from plural candidate values stepwise determined in advance, generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to the set value is determined; and
means for providing, when said number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than said set value, a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by said predetermined value, by outputting an image or a sound to said output means.

3. A gaming machine connected through a communi-

cation line to a control device which counts the number of games accumulatively for every gaming machine of plural gaming machines, comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for transmitting an identification information of a gaming machine to said control device through said communication line each time a game is played;
means for receiving a command signal transmitted from said control device when said number of games counted accumulatively by said control device based on said identification information of the gaming machine reaches a set value that is an object of comparison with said number of games, and that is selected from plural candidate values stepwise determined in advance;
means for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to said set value is determined, based on said command signal;
means for receiving a preliminary announcement command signal transmitted from said control device when said number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than said set value; and
means for providing, based on said preliminary announcement command signal, a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by said predetermined value, by outputting an image or a sound to said output means.

4. A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for counting accumulatively the number of games each time a game is played;
means for selecting a set value that is an object of comparison with said number of games from plural candidate values stepwise determined in advance;
means for determining whether or not said number of games has reached said set value;
means for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to said set value is determined, when said number of games is determined to have reached said set value; and
means for providing, when said number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than said set value, a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by said predetermined value, by outputting an image or a sound to said output means.

5. The gaming machine according to any one of claims 2 to 4,
wherein
said means for providing a preliminary announcement that the second special game state will be generated provides, when said number of games has reached a candidate set value for preliminary announcement which is smaller by a predetermined value than any one of said plural candidate values, a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by said predetermined value.

6. The gaming machine according to any one of claims 2 to 4, further comprising:

determiningmeans for determining whether or not to provide a preliminary announcement that the second special game state will be generated irrespective of whether or not the second special game state will be generated, wherein
when said determining means determines to provide a preliminary announcement that the second special game state will be generated, said means for providing a preliminary announcement that the second special game state will be generated provides a preliminary announcement that the second special game state will be generated.

7. The gaming machine according to any one of claims 2 to 4,
wherein
the means for providing a preliminary announcement that the second special game state will be generated provides a preliminary announcement without including information concerning the stage of the set value related to the preliminary announcement in the

content of the preliminary announcement.

8. The gaming machine according to any one of claims 2 to 4,
wherein
the larger a set value said number of games reaches, said means for generating said second special game state generates a second special game state in which a larger degree of advantage is determined.

9. The gaming machine according to any one of claims 2 to 4,
wherein
reception means that can accept for one game an insertion of game media up to a predetermined upper limit value is provided, and said means for generating said second special game state generates a second special game state in a case where the number of inserted game media for the game played by the player is equal to said upper limit when said number of games reaches said set value.

10. A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to a set value is determined when a payment balance in terms of the game media is equal to or less than the set value that is selected from plural candidate values stepwise determined in advance and that is an obj ect of comparison with said payment balance in terms of the game media; and
means for providing a preliminary announcement that the second special game state will be generated in a case where said payment balance in terms of the game media becomes equal to or less than said set value by outputting an image or a sound to said output means when said payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than said set value.

11. A gaming machine connected through a communication line to a control device which counts the payment balance in terms of the game media accumulatively for every gaming machine of plural gaming machines, comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for transmitting a payment balance in terms of the game media in a game played by a player together with an identification information of the gaming machine to said control device through said communication line each time a game is played;
means for receiving a command signal transmitted from said control device when said payment balance in terms of the game media counted accumulatively by said control device based on said identification information of the gaming machine and said payment balance in terms of the game media in a game played by the player is equal to or less than a set value that is selected from plural candidate values stepwise determined in advance and that is an object of comparison with said payment balance in terms of the game media;
means for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to said set value is determined, based on said command signal;
means for receiving a preliminary announcement command signal transmitted from said control device when said payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than said set value; and
means for providing a preliminary announcement that the second special game state will be generated in a case where said payment balance in terms of the game media becomes equal to or less than said set value, based on said preliminary announcement command signal, by outputting an image or a sound to said output means.

12. A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for counting accumulatively the payment

balance in terms of the game media each time a game is played;
means for selecting a set value that is an object of comparison with the payment balance in terms of the game media from plural candidate values stepwise determined in advance;
means for determining whether or not the payment balance in terms of the game media has become equal to or less than the set value;
means for generating a second special game state that is a game state advantageous to a player and in which a degree of advantage corresponding to said set value is determined, when the payment balance in terms of the game media is determined to have become equal to or less than the set value; and
means for providing a preliminary announcement that the second special game state will be generated in a case where said payment balance in terms of the game media becomes equal to or less than said set value by outputting an image or a sound to said output means when said payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than said set value.

13. The gaming machine according to any one of claims 10 to 12,
wherein
said means for providing a preliminary announcement that the second special game state will be generated provides a preliminary announcement that the second special game state will be generated in a case where said payment balance in terms of the game media becomes equal to or less than said candidate value when said payment balance in terms of the game media has reached a candidate set value for preliminary announcement which is larger by the predetermined value than any one of said plural candidate values.

14. The gaming machine according to any one of claims 10 to 12, further comprising:

determining means for determining whether or not to provide a preliminary announcement that the second special game state will be generated irrespective of whether or not the second special game state will be generated, wherein
said means for providing a preliminary announcement that the second special game state will be generated provides a preliminary announcement that the second special game state will be generated, when said determining means determines to provide a preliminary announcement that the second special game state will be generated.

15. The gaming machine according to any one of claims 10 to 12,
wherein
said means for providing a preliminary announcement that the second special game state will be generated provides a preliminary announcement without including information concerning the stage of the set value related to the preliminary announcement in the content of the preliminary announcement.

16. The gaming machine according to any one of claims 10 to 12,
wherein
the smaller a set value said payment balance in terms of the game media reaches, said means for generating the second special game state generates a second special game state in which a larger degree of advantage is determined.

17. The gaming machine according to any one of claims 10 to 12,
wherein
reception means that can accept for one game an insertion of game media up to a predetermined upper limit value is provided, and
said means for generating the second special game state generates a second special game state in a case where the number of inserted game media for the game played by the player is equal to the upper limit when said payment balance in terms of the game media becomes equal to or less than said set value.

18. A gaming machine comprising:

means for giving a stepwise different profit to a player according to the number of games played by the player; and
means for providing a preliminary announcement to the player by an image or a sound different according to said number of games that said stepwise different profit is given according to said number of games played by the player until the stepwise different profit according to the number of games is given.

19. A gaming machine comprising:

means for giving a stepwise different profit to a player according to the payment balance in terms of the game media of the player; and
means for providing a preliminary announcement to the player by an image or a sound different according to said payment balance in terms of the game media that said stepwise different profit is given according to said payment balance in terms of the game media of the player until the stepwise different profit according to

said payment balance in terms of the game media is given.

20. A game control method comprising:

a step of giving a stepwise different profit to a player according to the number of games played by the player; and
a step of providing a preliminary announcement to the player by an image or a sound different according to said number of games that said stepwise different profit is given according to said number of games played by the player until the stepwise different profit according to the number of games is given.

21. A game control method comprising:

a step of giving a stepwise different profit to a player according to the payment balance in terms of the game media of the player; and
a step of providing a preliminary announcement to the player by an image or a sound different according to said payment balance in terms of the game media that said stepwise different profit is given according to said payment balance in terms of the game media until the stepwise different profit according to said payment balance in terms of the game media is given.

22. A game system equipped with a gaming machine and a control device,
wherein
said control device includes:

means for transmitting a signal to said gaming machine according to the number of games played in said gaming machine by a player, and said gaming machine includes:

means for giving a stepwise different profit according to said number of games based on said signal received from said control device; and
means for providing a preliminary announcement to the player by an image or a sound different according to said number of games that said stepwise different profit is given according to said number of games until said stepwise different profit according to the number of games is given.

23. A game system equipped with a gaming machine and a control device,
wherein
said control device includes:

means for transmitting a signal to said gaming machine according to the payment balance in terms of the game media of the player in said gaming machine, and
said gaming machine includes:

means for giving a stepwise different profit according to said payment balance in terms of the game media based on said signal received from said control device; and
means for providing a preliminary announcement to the player by an image or a sound different according to said payment balance in terms of the game media that the stepwise different profit is given according to said payment balance in terms of the game media until the stepwise different profit according to said payment balance in terms of the game media is given.

24. A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with said number of games, generating a second special game state that is a game state advantageous to a player and that is the same type as or different type from the first special game state; and
means for providing a preliminary announcement that the second special game state will be generated after the player plays more games of the number indicated by a predetermined value by outputting an image or a sound to said output means when said number of games has reached a set value for preliminary announcement which is smaller by the predetermined value than said set value.

25. A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for, when a payment balance in terms of

the game media becomes equal to or less than a set value that is an object of comparison with said payment balance in terms of the game media, generating a second special game state that is a game state advantageous to a player and that is the same type as or different type from the first special game state; and

means for providing a preliminary announcement that the second special game state will be generated in a case where said payment balance in terms of the game media becomes equal to or less than said set value by outputting an image or a sound to said output means when said payment balance in terms of the game media has reached a set value for preliminary announcement which is larger by a predetermined value than said set value.

26. A gaming machine comprising:

output means capable of outputting an image or a sound;

winning combination determination means for determining a winning combination by a lottery;

means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;

means for, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with said number of games, generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state; and

means for notifying by outputting an image or a sound to said output means, after said number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than said set value, a counting value which shows the required number of games to reach said set value, each time a game is played.

27. A gaming machine connected through a communication line to a control device which counts the number of games accumulatively for every gaming machine of plural gaming machines, comprising:

output means capable of outputting an image or a sound;

winning combination determination means for determining a winning combination by a lottery;

means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;

means for transmitting identification information of the gaming machine to said control device through said communication line each time a game is played;

means for receiving a command signal transmitted from said control device when said number of games counted accumulatively by said control device based on said identification information of the gaming machine reaches a set value that is an object of comparison with said number of games;

means for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state, based on said command signal;

means for receiving, after said number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than said set value, a preliminary announcement command signal transmitted from said control device each time a game is played; and

means for notifying, based on said preliminary announcement command signal, a counting value which shows the required number of games to reach said set value, by outputting an image or a sound to said output means.

28. A gaming machine comprising:

output means capable of outputting an image or a sound;

winning combination determination means for determining a winning combination by a lottery;

means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;

means for counting accumulatively the number of games each time a game is played;

means for determining whether or not said number of games has reached a set value that is an object of comparison with said number of games;

means for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state, when said number of games is determined to have reached said set value; and

means for notifying by outputting an image or a sound to said output means, after said number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than said set value, a counting value which shows the required number of games to reach said set value, each time a game is

played.

29. The gaming machine according to claim 26 or 28, further comprising:

means for setting said number of games to a predetermined number when said first special game state is generated.

30. The gaming machine according to claim 29, wherein
said means for generating said second special game state generates a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to said set value is determined when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with said number of games, and that is selected from plural candidate values stepwise determined in advance; and
said means for notifying said counting value notifies information about the stage of the set value related to the concerned notification, by including the information in the content of notification.

31. The gaming machine according to claim 29, wherein
said means for generating said second special game state generates a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to said set value is determined when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with said number of games, and that is selected from plural candidate values stepwise determined in advance; and
said means for notifying said counting value notifies, after said number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than said set value, and which said predetermined value is larger with larger said set value, a counting value each time a game is played.

32. The gaming machine according to any one of claims 26 to 28,
wherein
said means for generating said second special game state generates, when the number of games accumulatively counted each time a game is played reaches a set value that is an object of comparison with said number of games, and that is selected from plural candidate values stepwise determined in advance, a second special game state that is a game state advantageous to a player, and in which a larger degree of advantage is determined with said number of games reaching a larger set value.

33. The gaming machine according to any one of claims 26 to 28,
wherein
reception means that can accept for one game an insertion of game media up to a predetermined upper limit value is provided, and said means for generating said second special game state generates a second special game state in a case where the number of inserted game media for the game played by the player is equal to said upper limit when said number of games reaches said set value.

34. A control device connected with plural gaming machines through a communication line comprising:

means for receiving identification information of the gaming machine from said gaming machine through said communication line, each time a game is played;
means for accumulatively counting the number of games, based on said identification information of the gaming machine;
means for receiving from said gaming machine through said communication line, when the first special game state that is a game state advantageous to a player is generated, a reset signal which shows that the first special game state has been generated;
means for setting said number of games to a predetermined number when receiving said reset signal;
means for transmitting, when said number of games reaches a set value that is an object of comparison with said number of games, a command signal for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to said set value is determined; and
means for transmitting a preliminary announcement command signal so that said gaming machine can notify, after said number of games has reached a set value for preliminary announcement which is smaller by a predetermined value than said set value, a counting value which shows the required number of games to reach said set value, each time a game is played.

35. A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player

when the determined winning combination is a special winning combination;
means for, when a payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with said payment balance in terms of the game media, generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state; and
means for notifying by outputting an image or a sound to said output means, after said payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than said set value, a counting value which shows the required number of game media for said payment balance in terms of the game media to become equal to or less than said set value, each time a game is played.

36. A gaming machine connected through a communication line to a control device which counts the payment balance in terms of the game media accumulatively for every gaming machine of plural gaming machines, comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for transmitting a payment balance in terms of the game media in a game played by a player together with an identification information of the gaming machine to said control device through said communication line each time a game is played;
means for receiving a command signal transmitted from said control device when said payment balance in terms of the game media counted accumulatively by said control device based on the identification information of the gaming machine and the payment balance in terms of the game media in a game played by the player is equal to or less than a set value that is an object of comparison with said payment balance in terms of the game media;
means for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state, based on said command signal;
means for receiving, after said payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than said set value, a preliminary announcement command signal transmitted from said control device each time a game is played; and
means for notifying, based on said preliminary announcement command signal, a counting value which shows the required number of game media for said payment balance in terms of the game media to become equal to or less than said set value, by outputting an image or a sound to said output means.

37. A gaming machine comprising:

output means capable of outputting an image or a sound;
winning combination determination means for determining a winning combination by a lottery;
means for generating a first special game state that is a game state advantageous to a player when the determined winning combination is a special winning combination;
means for counting a payment balance in terms of the game media accumulatively each time a game is played;
means for determining whether or not said payment balance in terms of the game media has become equal to or less than a set value that is an obj ect of comparison with said payment balance in terms of the game media;
means for generating a second special game state that is a game state advantageous to a player and which is the same type as, or a different type from the first special game state, when the payment balance in terms of the game media is determined to have become equal to or less than the set value; and
means for notifying by outputting an image or a sound to said output means, after said payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than said set value, a counting value which shows the required number of game media for said payment balance in terms of the game media to become equal to or less than said set value, each time a game is played.

38. The gaming machine according to claim 35 or 37, further comprising:

means for setting said payment balance in terms of the game media to a predetermined number when the first special game state is generated.

39. The gaming machine according to claim 38, wherein

said means for generating the second special game state generates a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to said set value is determined when said payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with said payment balance in terms of the game media, and that is selected from plural candidate values stepwise determined in advance; and
said means for notifying the counting value notifies information about the stage of the set value related to the concerned notification, by including the information in the content of notification.

40. The gaming machine according to claim 38, wherein
said means for generating the second special game state generates a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to said set value is determined when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with said payment balance in terms of the game media, and that is selected from plural candidate values stepwise determined in advance; and
said means for notifying the counting value notifies, after said payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than said set value, and which said predetermined value is larger with smaller said set value, a counting value each time a game is played.

41. The gaming machine according to any one of claims 35 to 37,
wherein
said means for generating the second special game state generates, when the payment balance in terms of the game media reaches a set value that is an object of comparison with said payment balance in terms of the game media, and that is selected from plural candidate values stepwise determined in advance, a second special game state that is a game state advantageous to a player, and in which a larger degree of advantage is determined with said payment balance in terms of the game media reaching a smaller set value.

42. The gaming machine according to any one of claims 35 to 37,
wherein
reception means that can accept for one game an insertion of game media up to a predetermined upper limit value is provided, and
said means for generating the second special game state generates a second special game state in a case where the number of inserted game media for the game played is at said upper limit value when said payment balance in terms of the game media is equal to or less than said set value.

43. A control device connected with plural gaming machines through a communication line comprising:

means for receiving a payment balance in terms of the game media in a game played by a player together with identification information of the gaming machine from said gaming machine through said communication line, each time a game is played;
means for accumulatively counting the payment balance in terms of the game media, based on said identification information of the gaming machine and the payment balance in terms of the game media in a game played by the player;
means for receiving from said gaming machine through said communication line, when the first special game state that is a game state advantageous to a player is generated, a reset signal which shows that the first special game state has been generated;
means for setting said payment balance in terms of the game media to a predetermined number when receiving the reset signal;
means for transmitting, when the payment balance in terms of the game media becomes equal to or less than a set value that is an object of comparison with said payment balance in terms of the game media, a command signal for generating a second special game state that is a game state advantageous to a player, and in which a degree of advantage corresponding to said set value is determined; and
means for transmitting a preliminary announcement command signal so that said gaming machine can notify, after a payment balance in terms of the game media has reached a set value for preliminary announcement which is greater by a predetermined value than said set value, a counting value which shows the required number of game media for said payment balance in terms of the game media to become equal to or less than said set value, each time a game is played.

44. A gaming machine comprising:

means for giving a profit to a player according to the number of games played by the player; and
means for notifying to the player that said profits according to said number of games will be given, by performing a countdown with an image or a sound, each time a game is played.

45. A gaming machine comprising:

means for giving a profit to a player according to the payment balance in terms of the game media of the player; and
means for notifying to the player that said profits according to said payment balance in terms of the game media will be given, by performing a countdown with an image or a sound, each time a game is played.

46. A game control method comprising:

a step for giving a profit to a player according to the number of games played by the player; and
a step for notifying to the player that said profits according to said number of games will be given, by performing a countdown with an image or a sound, each time a game is played.

47. A game control method comprising:

a step for giving a profit to a player according to the payment balance in terms of the game media of the player; and
a step for notifying to the player that said profits according to said payment balance in terms of the game media will be given, by performing a countdown with an image or a sound, each time a game is played.

48. A game system equipped with a gaming machine and a control device,
wherein
said control device includes:

means for transmitting a signal to said gaming machine according to the number of games played in said gaming machine by a player,
and said gaming machine includes:

means for giving profit according to said number of games based on said signal received from said control device; and
means for notifying to the player that said profits according to said number of games will be given, by performing a countdown with an image or a sound, each time a game is played.

49. A game system equipped with a gaming machine and a control device,
wherein
said control device includes:

means for transmitting a signal to said gaming machine according to a payment balance in terms of the game media of a player in said gaming machine, and
said gaming machine includes:

means for giving profit according to said payment balance in terms of the game media based on said signal received from said control device; and
means for notifying to the player that the profits according to the payment balance in terms of the game media will be given, by performing a countdown with an image or a sound, each time a game is played.

Fig. 1

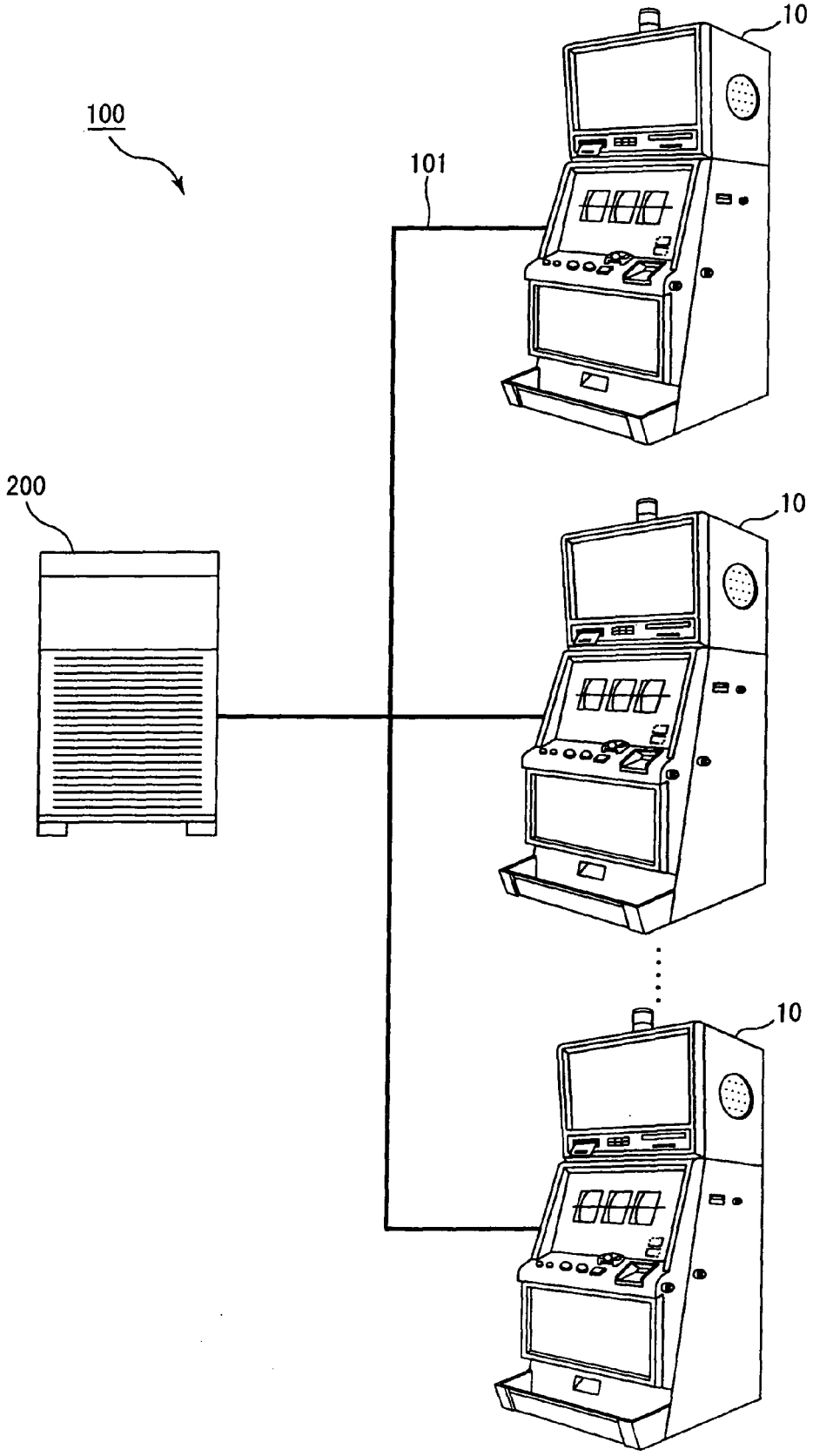


Fig. 2

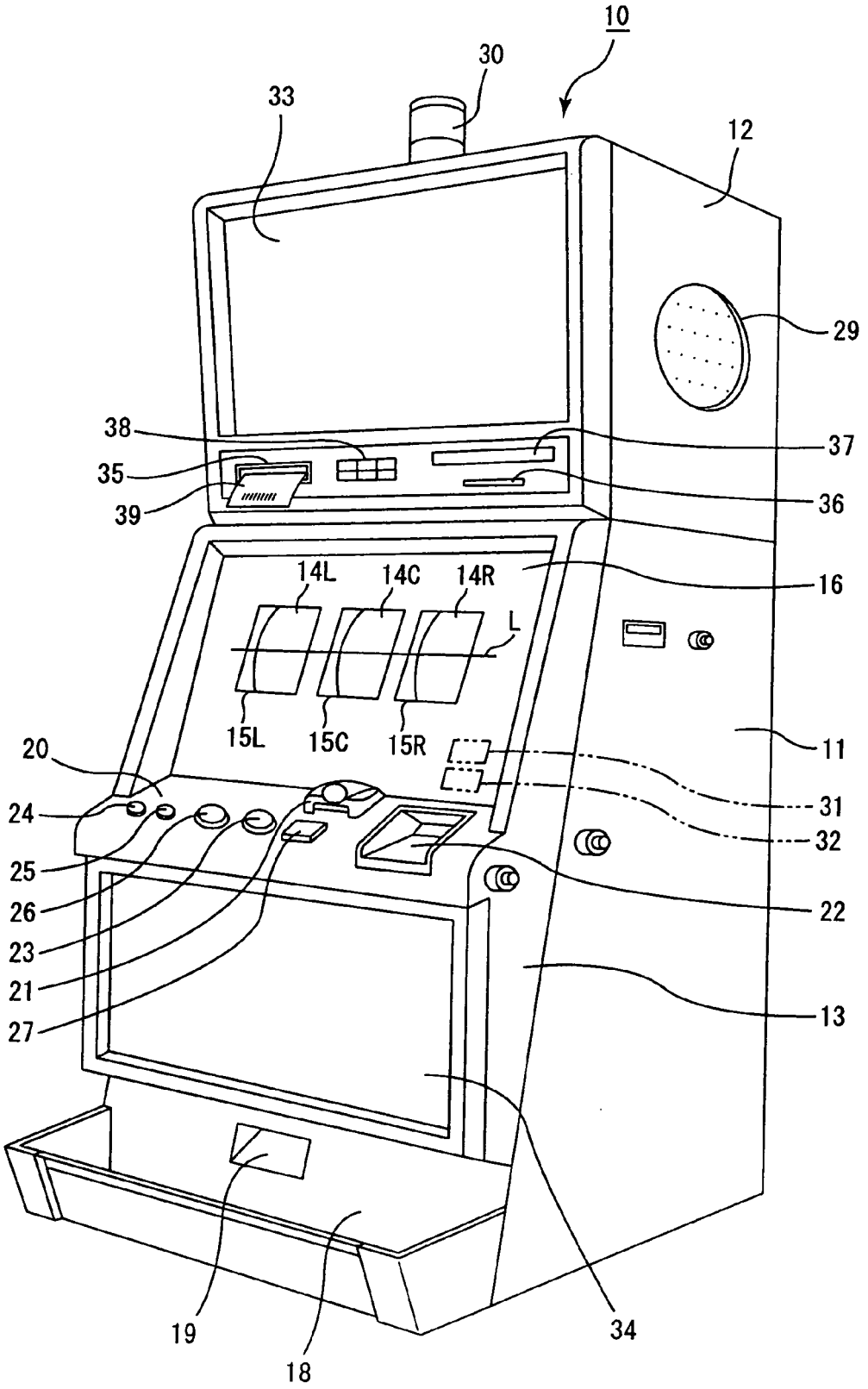

10
30
33
12
29
38
37
35
36
39
14L
14C
14R
16
L
15L
15C
15R
11
20
31
24
32
25
22
26
23
13
21
27
19
34
18

Fig. 3

	Left reel	Center reel	Right reel
Code No.	Symbol	Symbol	Symbol
00	JACKPOT 7	JACKPOT 7	JACKPOT 7
01	PLUM	BELL	CHERRY
02	ORANGE	APPLE	ORANGE
03	PLUM	BELL	APPLE
04	ORANGE	CHERRY	ORANGE
05	PLUM	ORANGE	PLUM
06	ORANGE	PLUM	ORANGE
07	PLUM	CHERRY	PLUM
08	BLUE 7	BELL	ORANGE
09	CHERRY	APPLE	PLUM
10	ORANGE	BELL	ORANGE
11	BELL	STRAWBERRY	PLUM
12	ORANGE	PLUM	BELL
13	STRAWBERRY	BLUE 7	STRAWBERRY
14	BLUE 7	BELL	BLUE 7
15	ORANGE	APPLE	BELL
16	APPLE	BELL	CHERRY
17	PLUM	STRAWBERRY	PLUM
18	ORANGE	PLUM	ORANGE
19	PLUM	CHERRY	PLUM
20	BLUE 7	BELL	ORANGE
21	CHERRY	APPLE	PLUM

Fig. 4

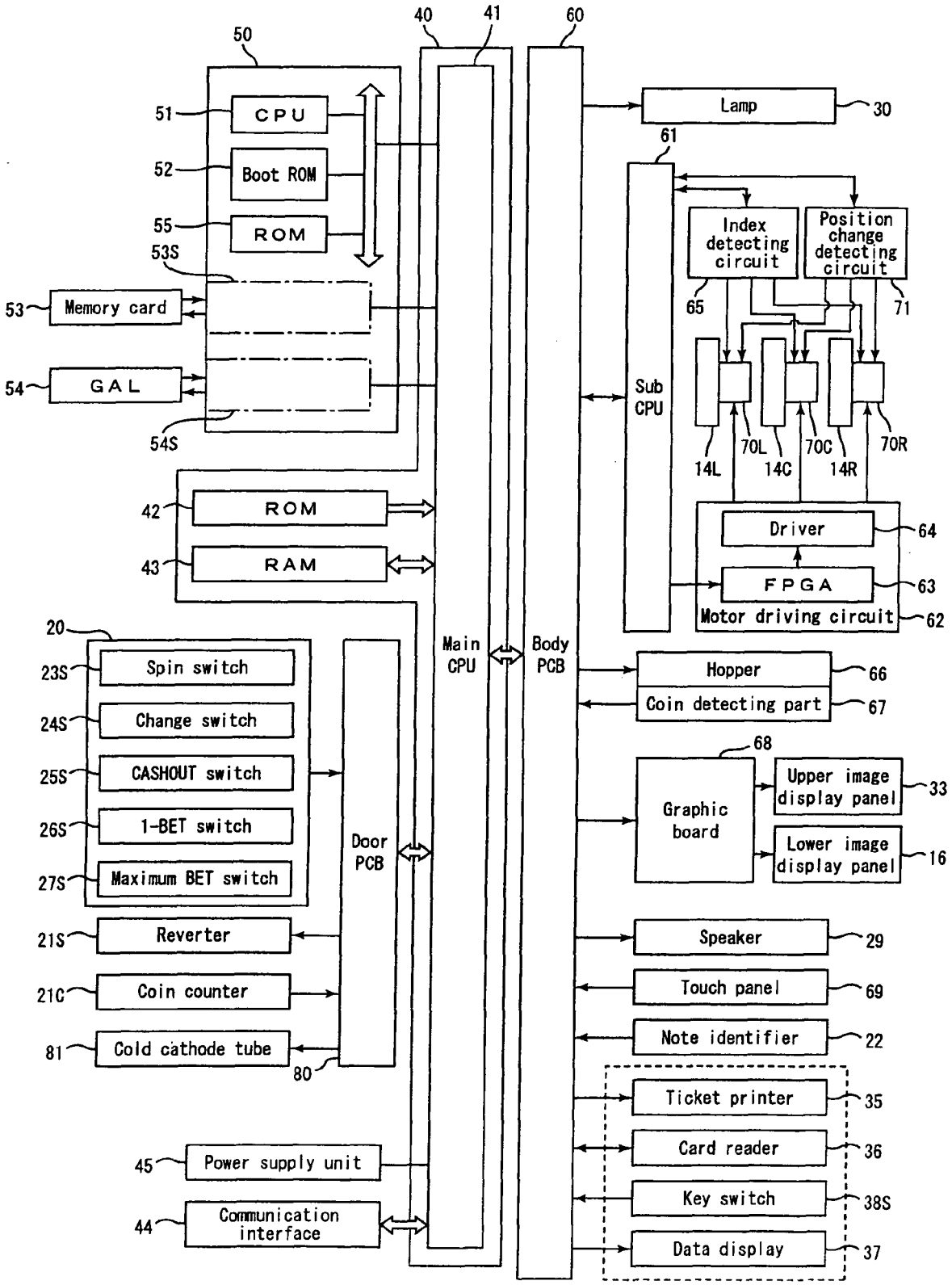

40
41
60
50
51
CPU
52
Boot ROM
55
ROM
53S
53
Memory card
54
GAL
54S
Lamp
30
61
Index detecting circuit
Position change detecting circuit
65
71
Sub CPU
70L
70C
70R
14L
14C
14R
Driver
64
FPGA
63
Motor driving circuit
62
42
ROM
43
RAM
Main CPU
Body PCB
20
23S
Spin switch
24S
Change switch
25S
CASHOUT switch
26S
1-BET switch
27S
Maximum BET switch
Door PCB
21S
Reverter
21C
Coin counter
81
Cold cathode tube
80
Hopper
66
Coin detecting part
67
68
Graphic board
Upper image display panel
33
Lower image display panel
16
Speaker
29
Touch panel
69
Note identifier
22
Ticket printer
35
Card reader
36
Key switch
38S
Data display
37
45
Power supply unit
44
Communication interface

Fig. 5

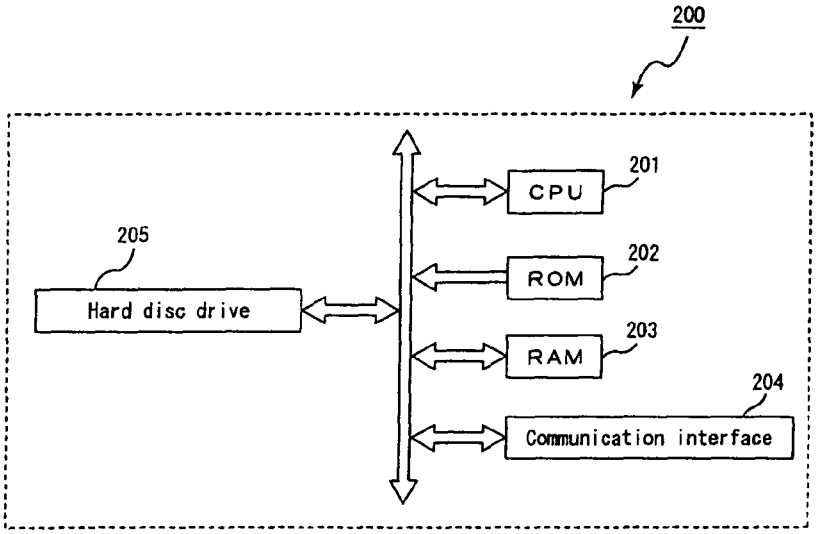


Fig. 6

Gaming machine identification number	Number of games	Accumulative number of coin-in	Accumulative number of coin-out	Payment balance	Return rate (%)	Set value	Set value for preliminary announcement
001	600	30000	27000	-3000	90	600	550
002	600	30000	33000	3000	110	600	550
003	1200	60000	45000	-15000	75	1200	1150
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

Fig. 7

Set value	Number of coin-out
600	1000
1200	2000
2400	4000

Fig. 8

Set value	Number of coin-out
600	(- payment balance) × 50% (provided that the number of coin-out = 1000 if a payment balance≧0)
1200	(- payment balance) × 60% (provided that the number of coin-out = 2000 if a payment balance≧0)
2400	(- payment balance) × 70% (provided that the number of coin-out = 4000 if a payment balance≧0)

Fig. 9

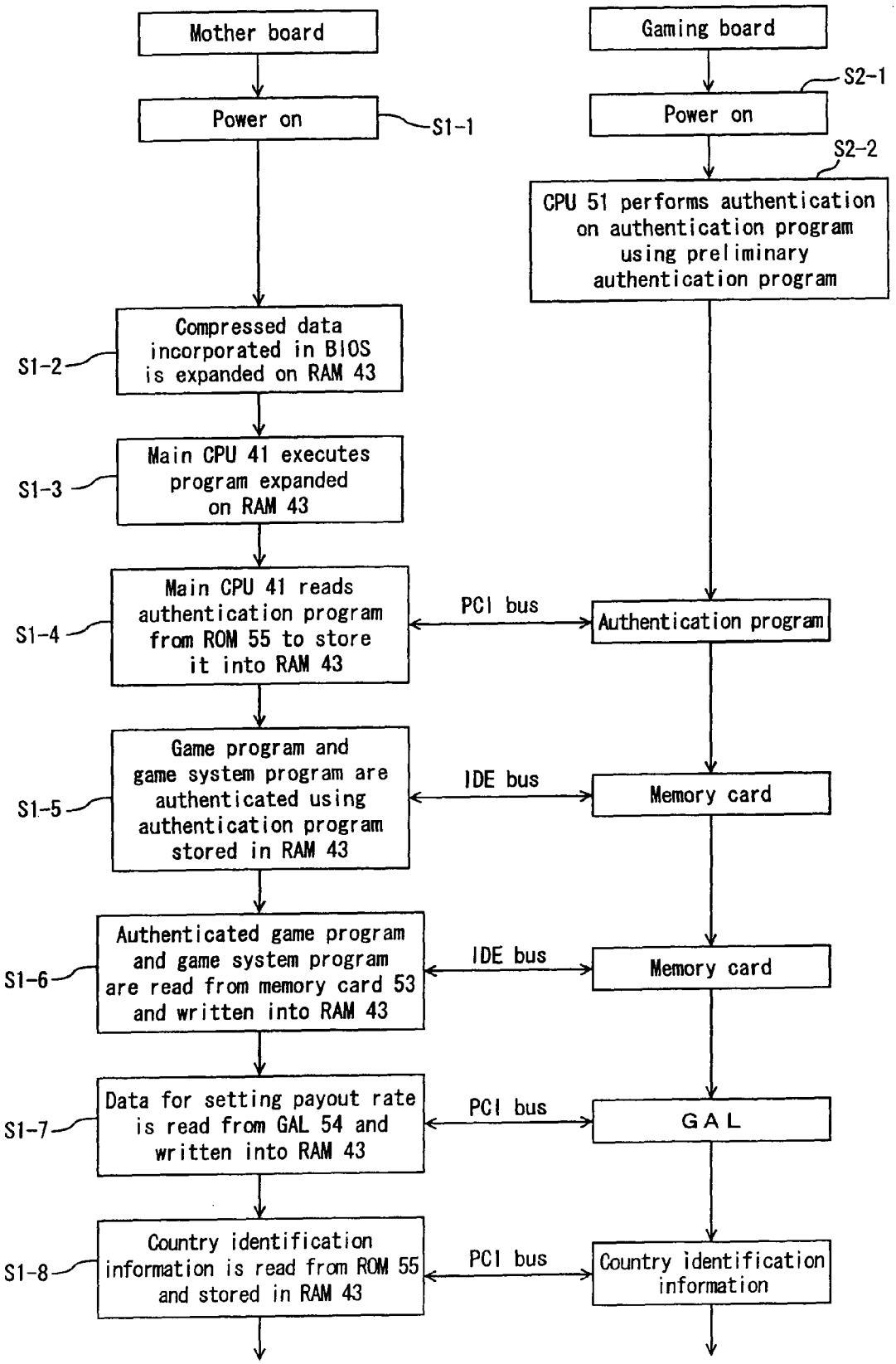

Mother board
Power on
S1-1
Compressed data incorporated in BIOS is expanded on RAM 43
S1-2
Main CPU 41 executes program expanded on RAM 43
S1-3
Main CPU 41 reads authentication program from ROM 55 to store it into RAM 43
S1-4
Game program and game system program are authenticated using authentication program stored in RAM 43
S1-5
Authenticated game program and game system program are read from memory card 53 and written into RAM 43
S1-6
Data for setting payout rate is read from GAL 54 and written into RAM 43
S1-7
Country identification information is read from ROM 55 and stored in RAM 43
S1-8
Gaming board
S2-1
Power on
S2-2
CPU 51 performs authentication on authentication program using preliminary authentication program
PCI bus
Authentication program
IDE bus
Memory card
IDE bus
Memory card
PCI bus
GAL
PCI bus
Country identification information

Fig. 10

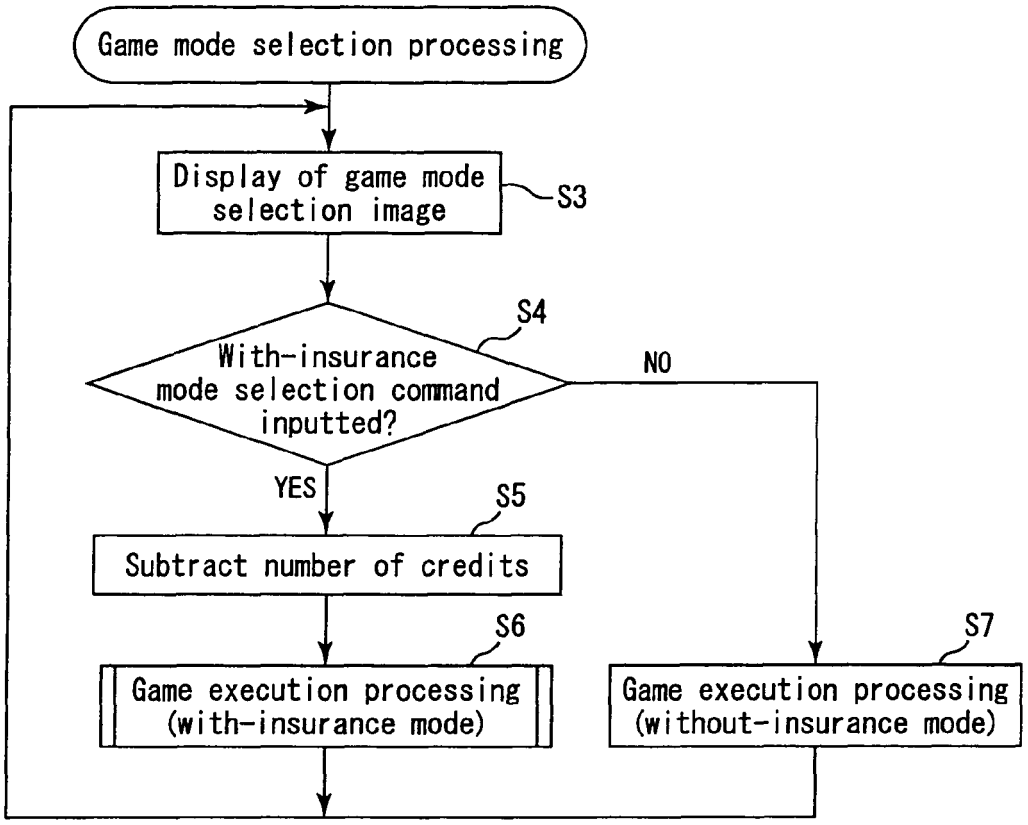

Game mode selection processing
Display of game mode selection image
S3
S4
With-insurance mode selection command inputted?
NO
YES
S5
Subtract number of credits
S6
Game execution processing (with-insurance mode)
S7
Game execution processing (without-insurance mode)

Fig. 11A

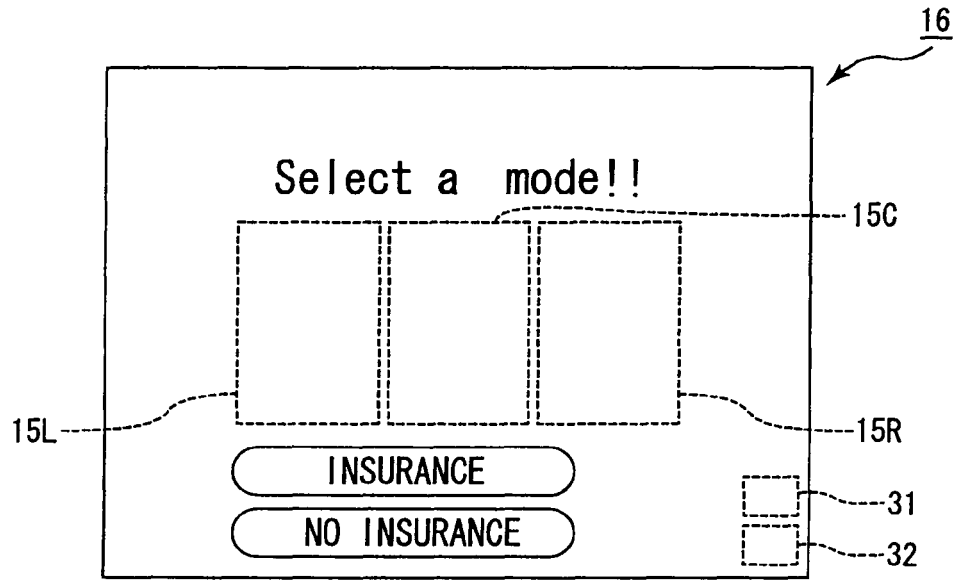


Fig. 11B

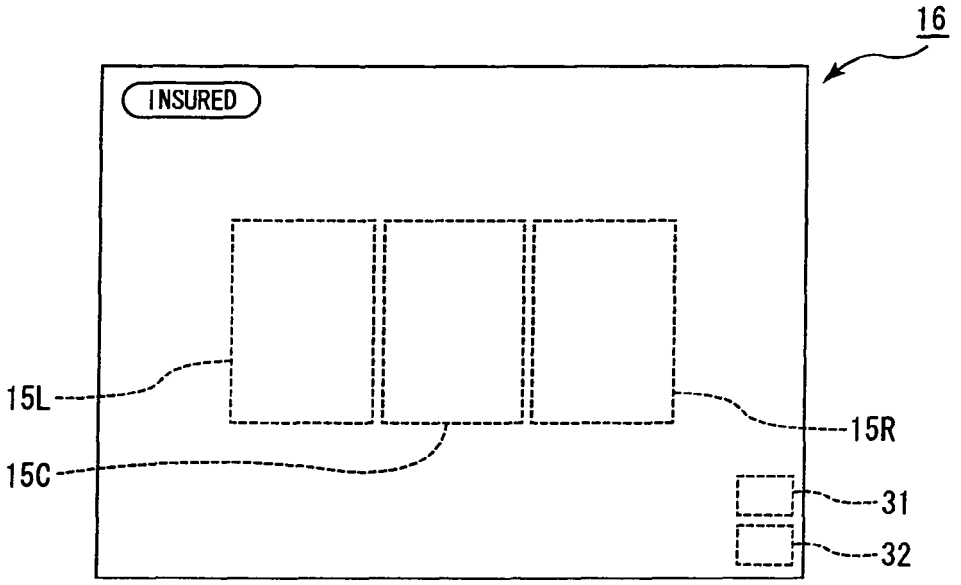


Fig. 12

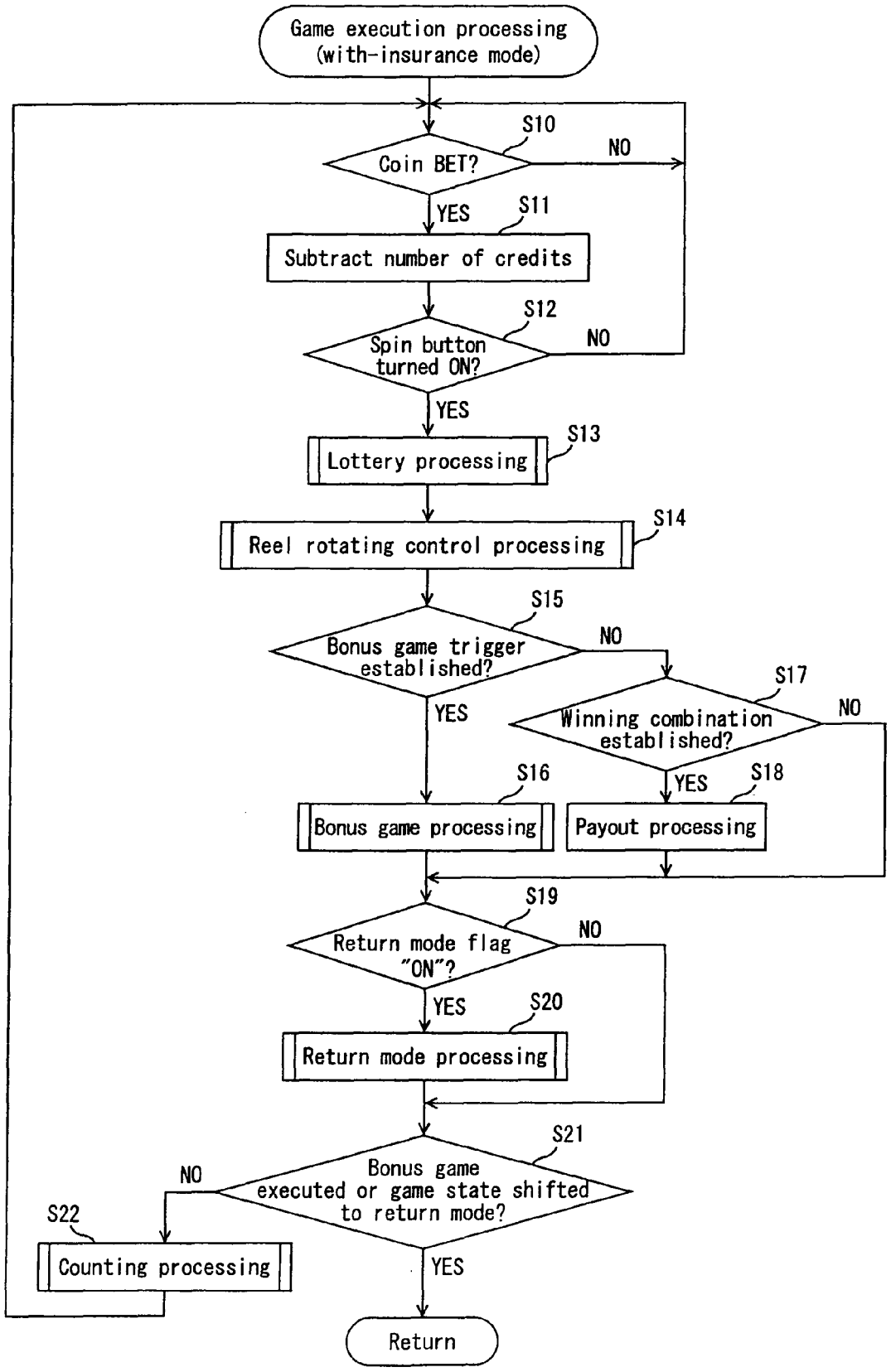

Game execution processing (with-insurance mode)
S10
Coin BET?
NO
YES
S11
Subtract number of credits
S12
Spin button turned ON?
NO
YES
S13
Lottery processing
S14
Reel rotating control processing
S15
Bonus game trigger established?
NO
YES
S17
Winning combination established?
NO
YES
S18
S16
Bonus game processing
Payout processing
S19
Return mode flag "ON"?
NO
YES
S20
Return mode processing
S21
Bonus game executed or game state shifted to return mode?
NO
YES
S22
Counting processing
Return

Fig. 13

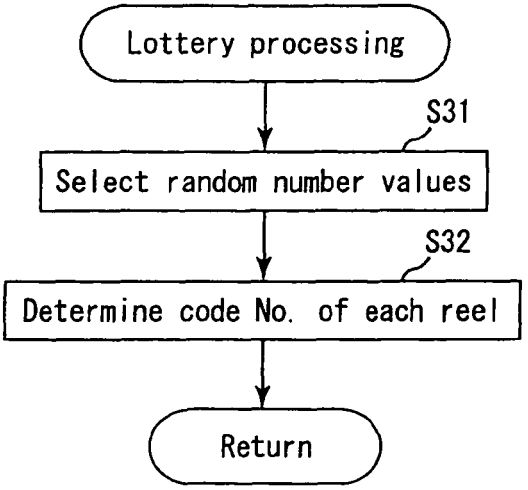


Fig. 14

Winning combination			Establishment possibility (%)	Number of coin-out (※1)
Bonus game trigger			0.5	(※2)
JACKPOT 7	JACKPOT 7	JACKPOT 7	0.5	30
BLUE 7	BLUE 7	BLUE 7	0.8	10
BELL	BELL	BELL	1.1	8
CHERRY	CHERRY	CHERRY	1.5	5
STRAWBERRY	STRAWBERRY	STRAWBERRY	1.5	5
PLUM	PLUM	PLUM	1.8	4
ORANGE	ORANGE	ORANGE	2.3	3
CHERRY	CHERRY	(ANY)	3.0	2
ORANGE	ORANGE	(ANY)	3.0	2
CHERRY	(ANY)	(ANY)	7.5	1
ORANGE	(ANY)	(ANY)	7.5	1

※1: the number of coin-out per one coin-in
※2: the number of free games determined by lottery is performed

Fig. 15

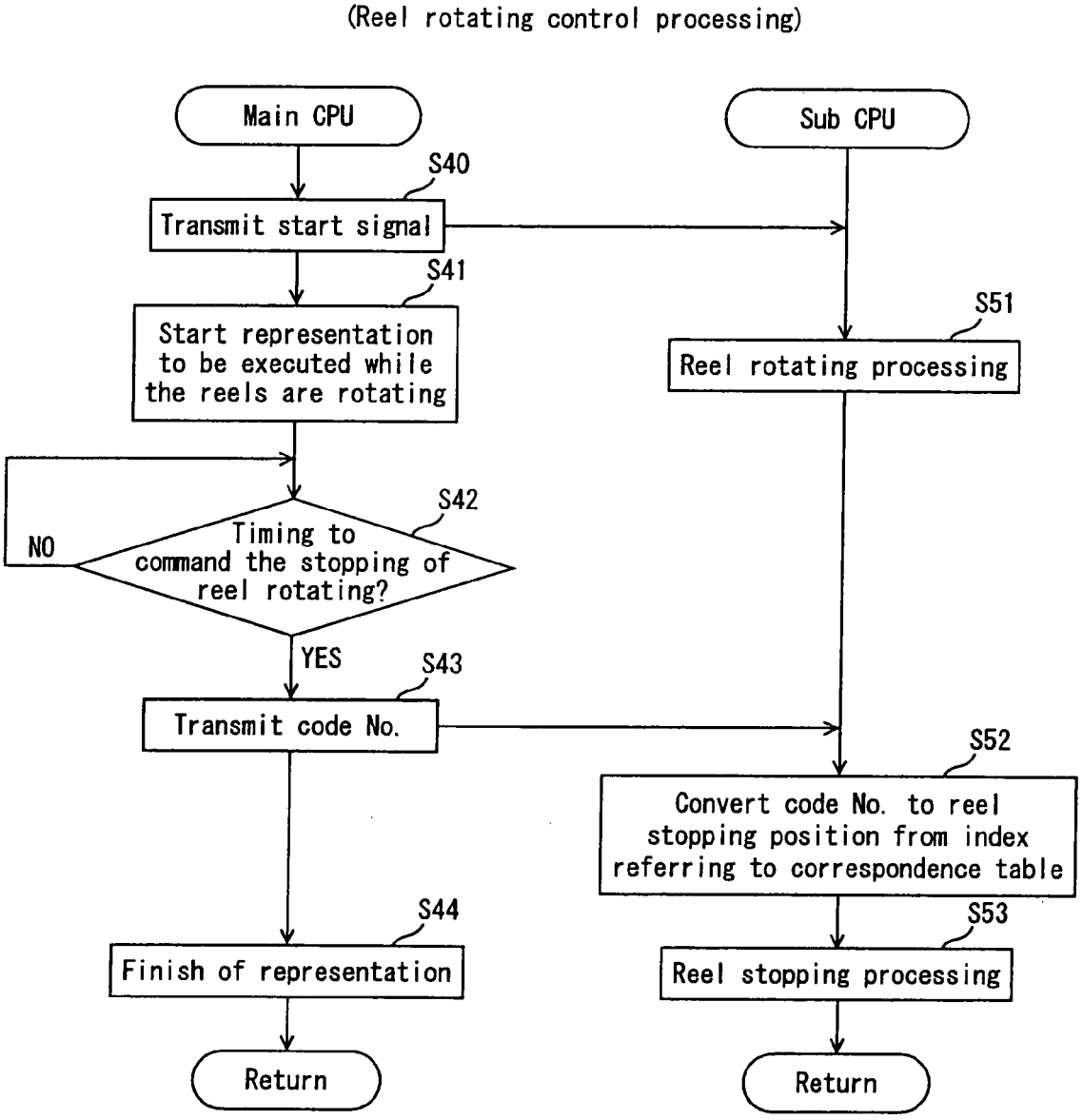

(Reel rotating control processing)
Main CPU
Sub CPU
S40
Transmit start signal
S41
Start representation to be executed while the reels are rotating
S51
Reel rotating processing
S42
Timing to command the stopping of reel rotating?
NO
YES
S43
Transmit code No.
S52
Convert code No. to reel stopping position from index referring to correspondence table
S44
Finish of representation
S53
Reel stopping processing
Return
Return

Fig. 16A

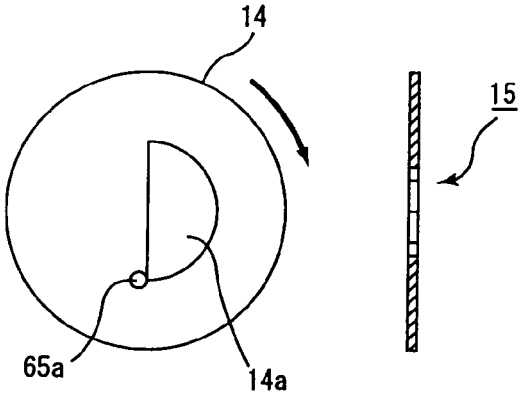


Fig. 16B

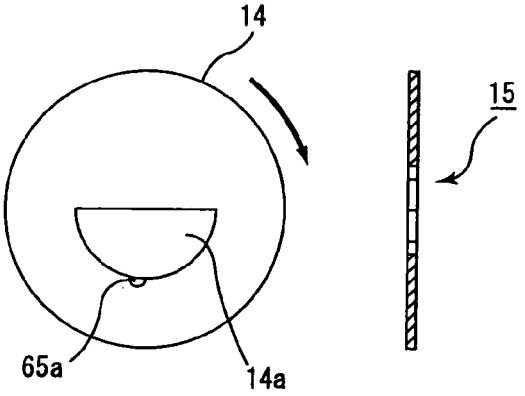


Fig. 16C

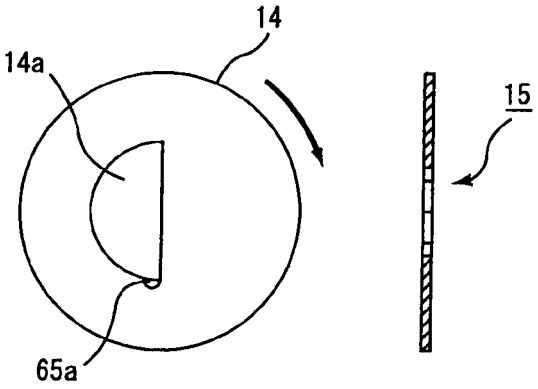


Fig. 16D

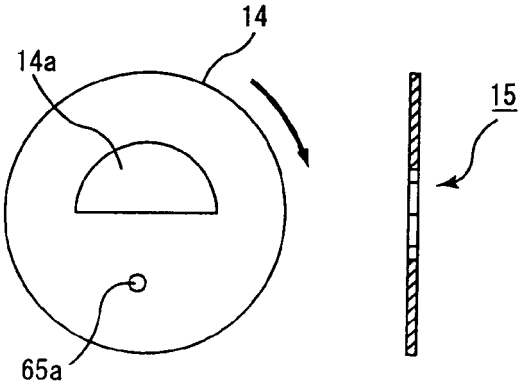


Fig. 17

Code No.	Index	Number of steps (※)
00	1	0
01		18
02		36
03		54
04		72
05		91
06		109
07		127
08		145
09		163
10		182
11	2	200
12		218
13		236
14		254
15		273
16		291
17		309
18		327
19		345
20		364
21		382

※the number of steps with index 1 as a reference

Fig. 18

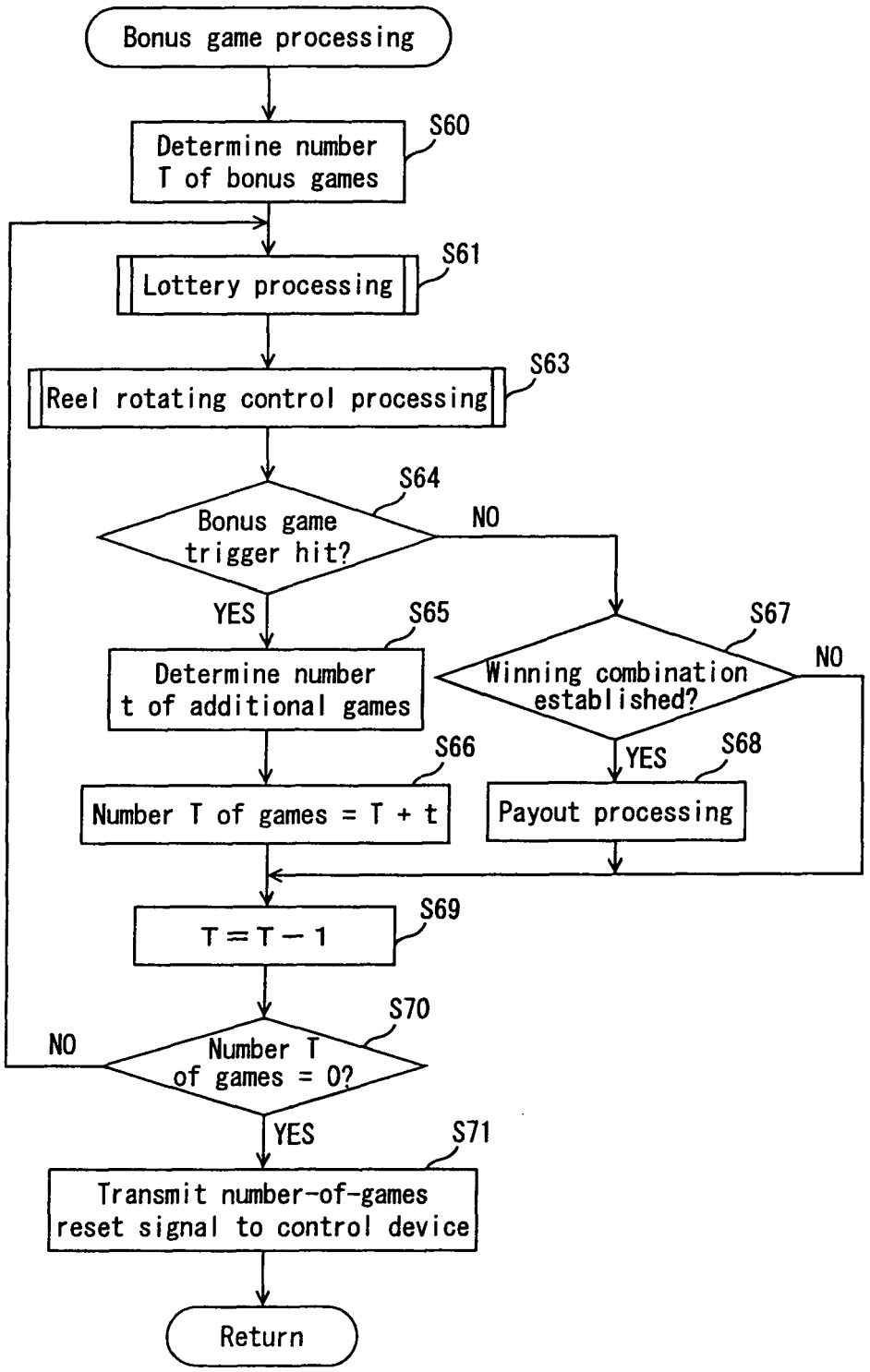

Bonus game processing
Determine number T of bonus games
S60
Lottery processing
S61
Reel rotating control processing
S63
Bonus game trigger hit?
S64
NO
YES
Determine number t of additional games
S65
Winning combination established?
S67
NO
YES
S68
Payout processing
Number T of games = T + t
S66
T = T − 1
S69
Number T of games = 0?
S70
NO
YES
Transmit number-of-games reset signal to control device
S71
Return

Fig. 19

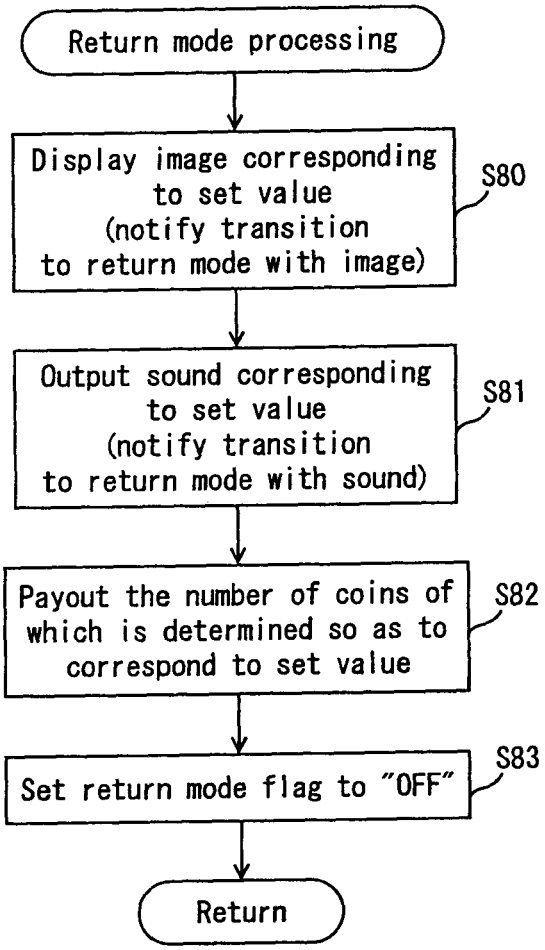

Return mode processing
Display image corresponding to set value (notify transition to return mode with image)
S80
Output sound corresponding to set value (notify transition to return mode with sound)
S81
Payout the number of coins of which is determined so as to correspond to set value
S82
Set return mode flag to "OFF"
S83
Return

Fig. 20A

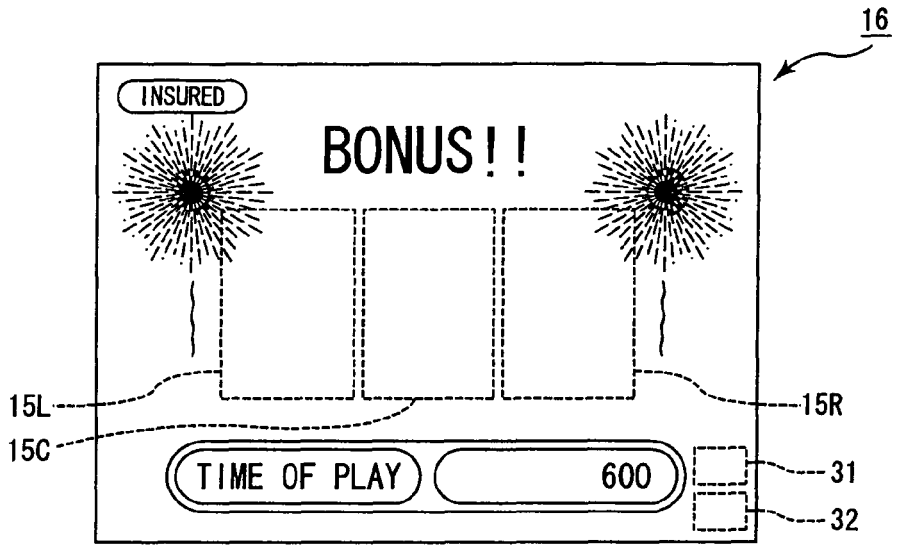


Fig. 20B

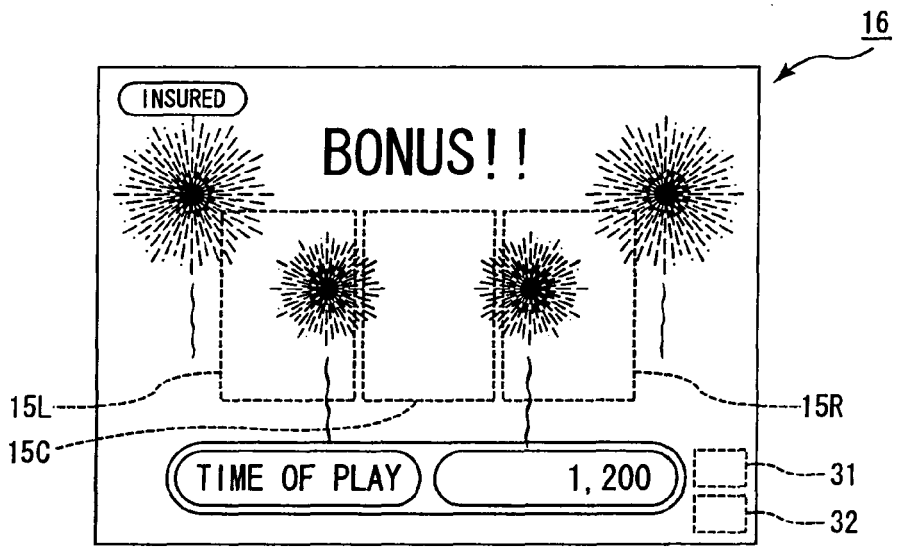


Fig. 20C

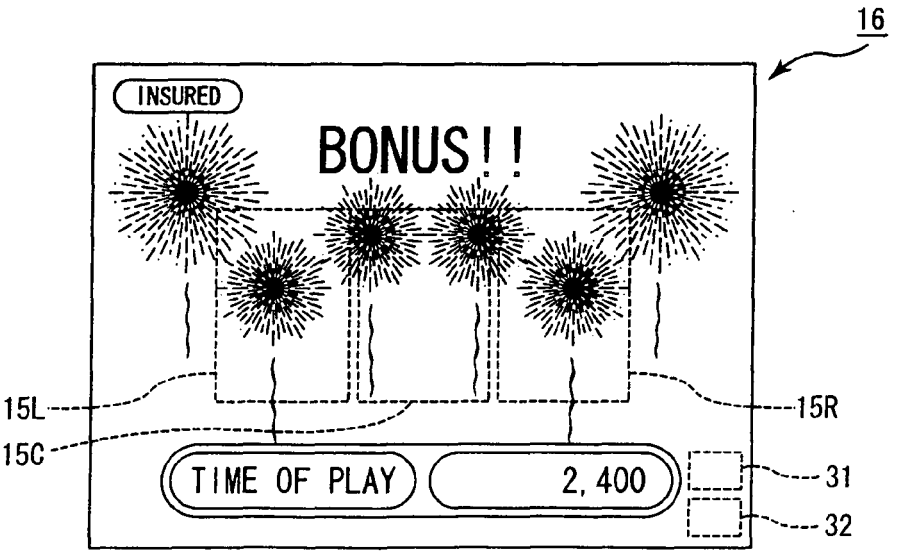


Fig. 21

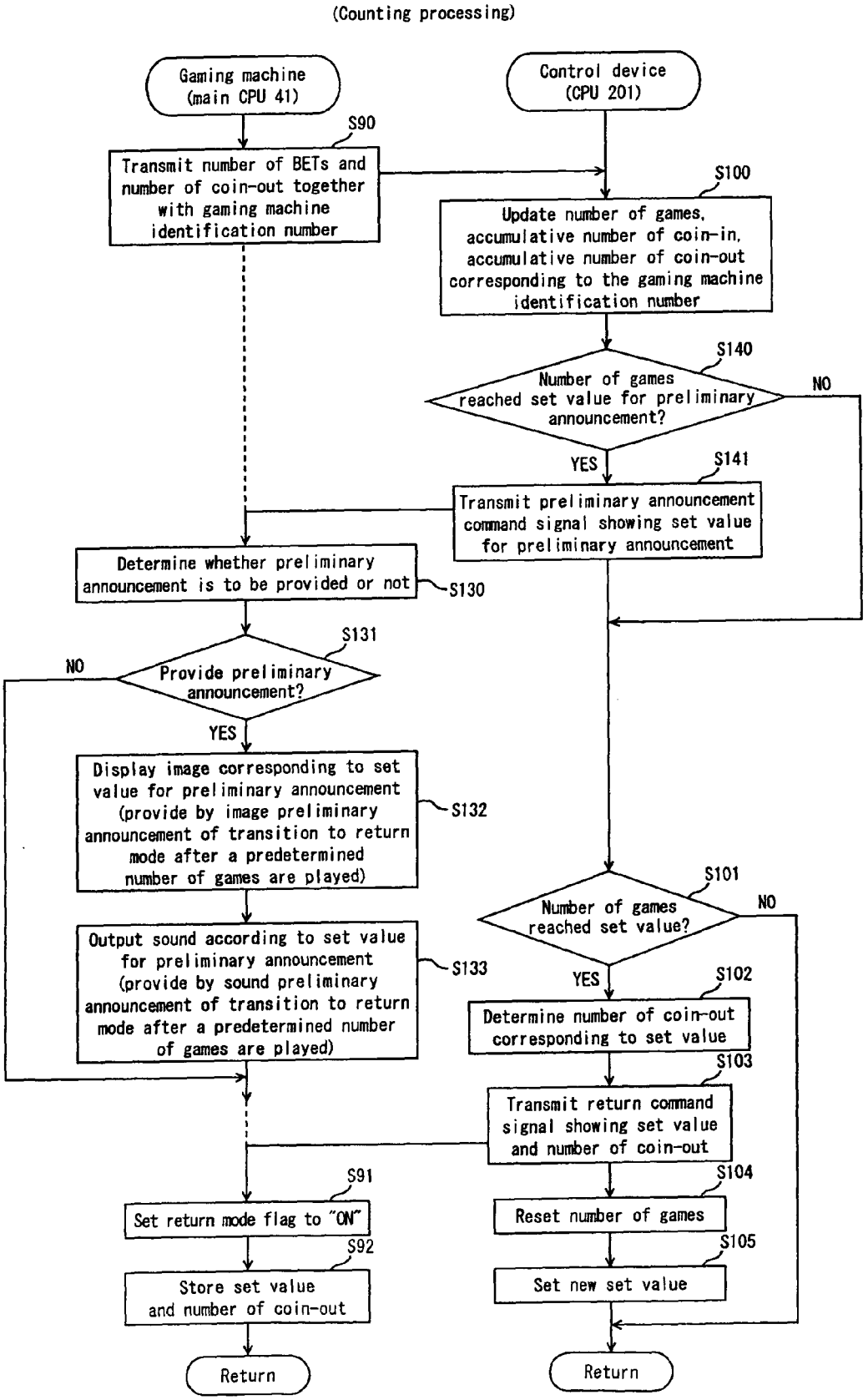

(Counting processing)
Gaming machine (main CPU 41)
Control device (CPU 201)
S90
Transmit number of BETs and number of coin-out together with gaming machine identification number
S100
Update number of games, accumulative number of coin-in, accumulative number of coin-out corresponding to the gaming machine identification number
S140
Number of games reached set value for preliminary announcement?
NO
YES
S141
Transmit preliminary announcement command signal showing set value for preliminary announcement
Determine whether preliminary announcement is to be provided or not
S130
S131
NO
Provide preliminary announcement?
YES
Display image corresponding to set value for preliminary announcement (provide by image preliminary announcement of transition to return mode after a predetermined number of games are played)
S132
Output sound according to set value for preliminary announcement (provide by sound preliminary announcement of transition to return mode after a predetermined number of games are played)
S133
S101
Number of games reached set value?
NO
YES
S102
Determine number of coin-out corresponding to set value
S103
Transmit return command signal showing set value and number of coin-out
S91
Set return mode flag to "ON"
S92
Store set value and number of coin-out
S104
Reset number of games
S105
Set new set value
Return
Return

Fig. 22

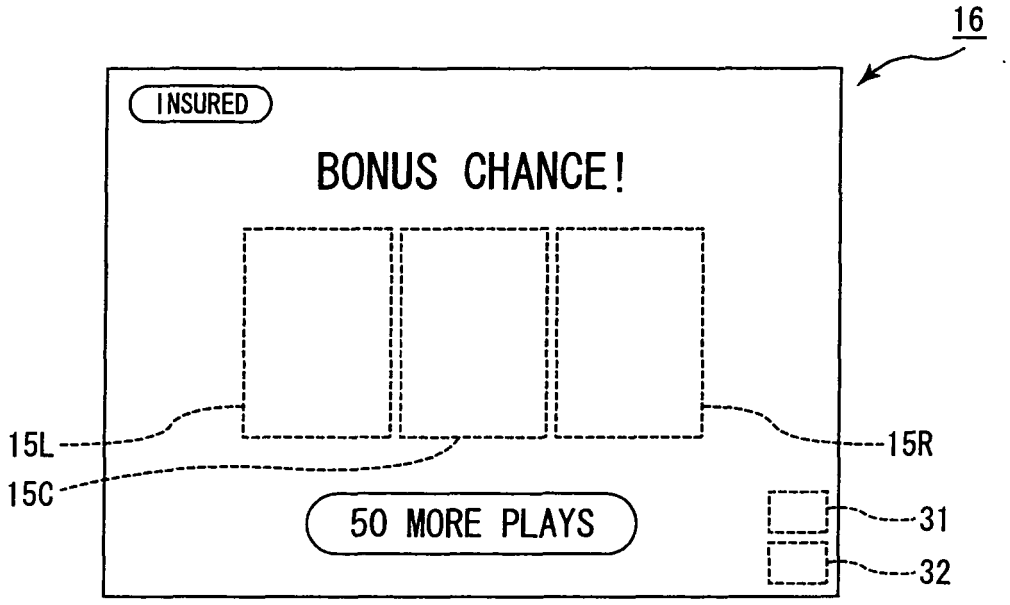


Fig. 23

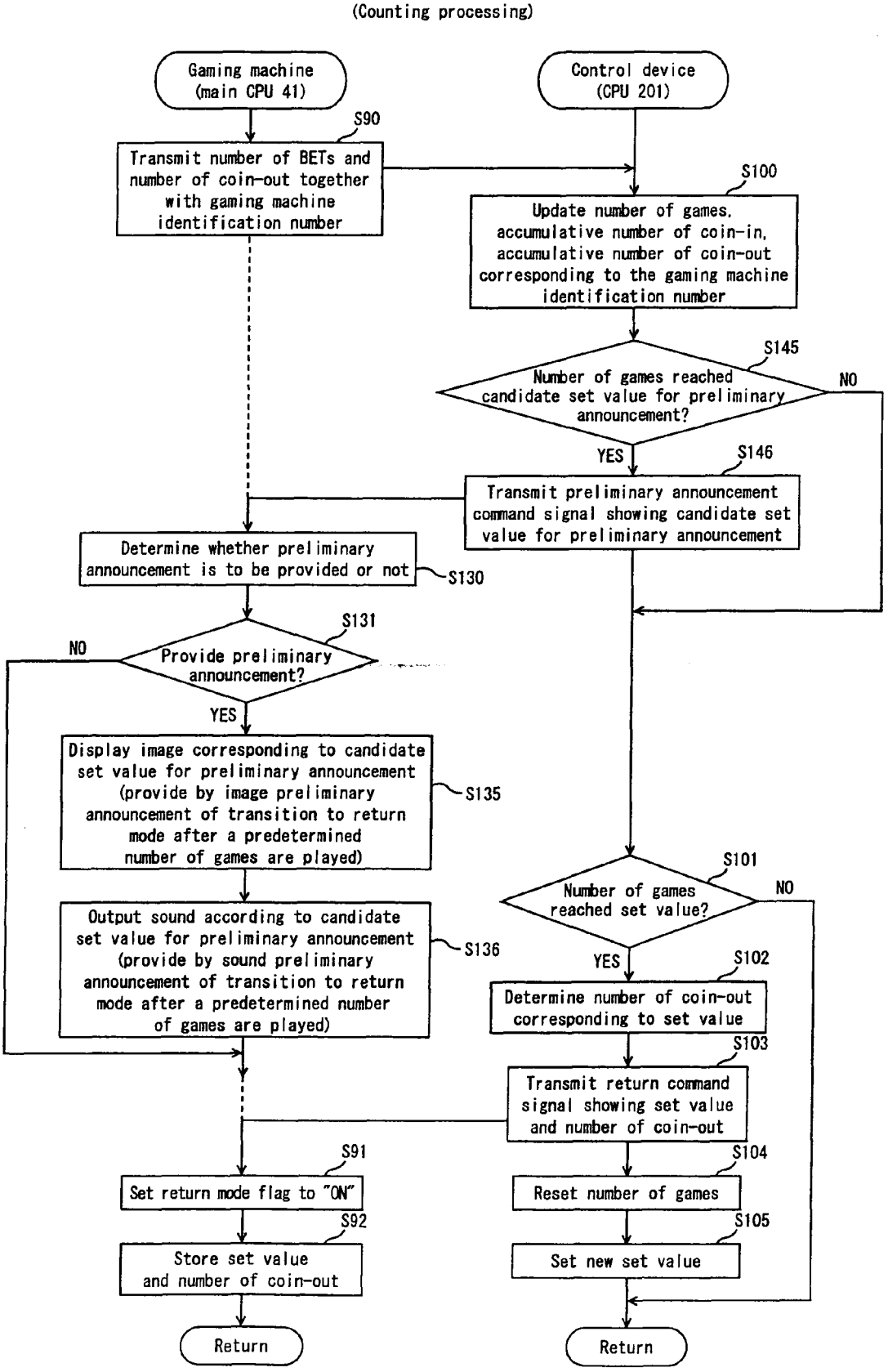

(Counting processing)
Gaming machine (main CPU 41)
Control device (CPU 201)
S90
Transmit number of BETs and number of coin-out together with gaming machine identification number
S100
Update number of games, accumulative number of coin-in, accumulative number of coin-out corresponding to the gaming machine identification number
S145
Number of games reached candidate set value for preliminary announcement?
NO
YES
S146
Transmit preliminary announcement command signal showing candidate set value for preliminary announcement
Determine whether preliminary announcement is to be provided or not
S130
S131
NO
Provide preliminary announcement?
YES
Display image corresponding to candidate set value for preliminary announcement (provide by image preliminary announcement of transition to return mode after a predetermined number of games are played)
S135
Output sound according to candidate set value for preliminary announcement (provide by sound preliminary announcement of transition to return mode after a predetermined number of games are played)
S136
S101
Number of games reached set value?
NO
YES
S102
Determine number of coin-out corresponding to set value
S103
Transmit return command signal showing set value and number of coin-out
S91
Set return mode flag to "ON"
S92
Store set value and number of coin-out
S104
Reset number of games
S105
Set new set value
Return
Return

Fig. 24

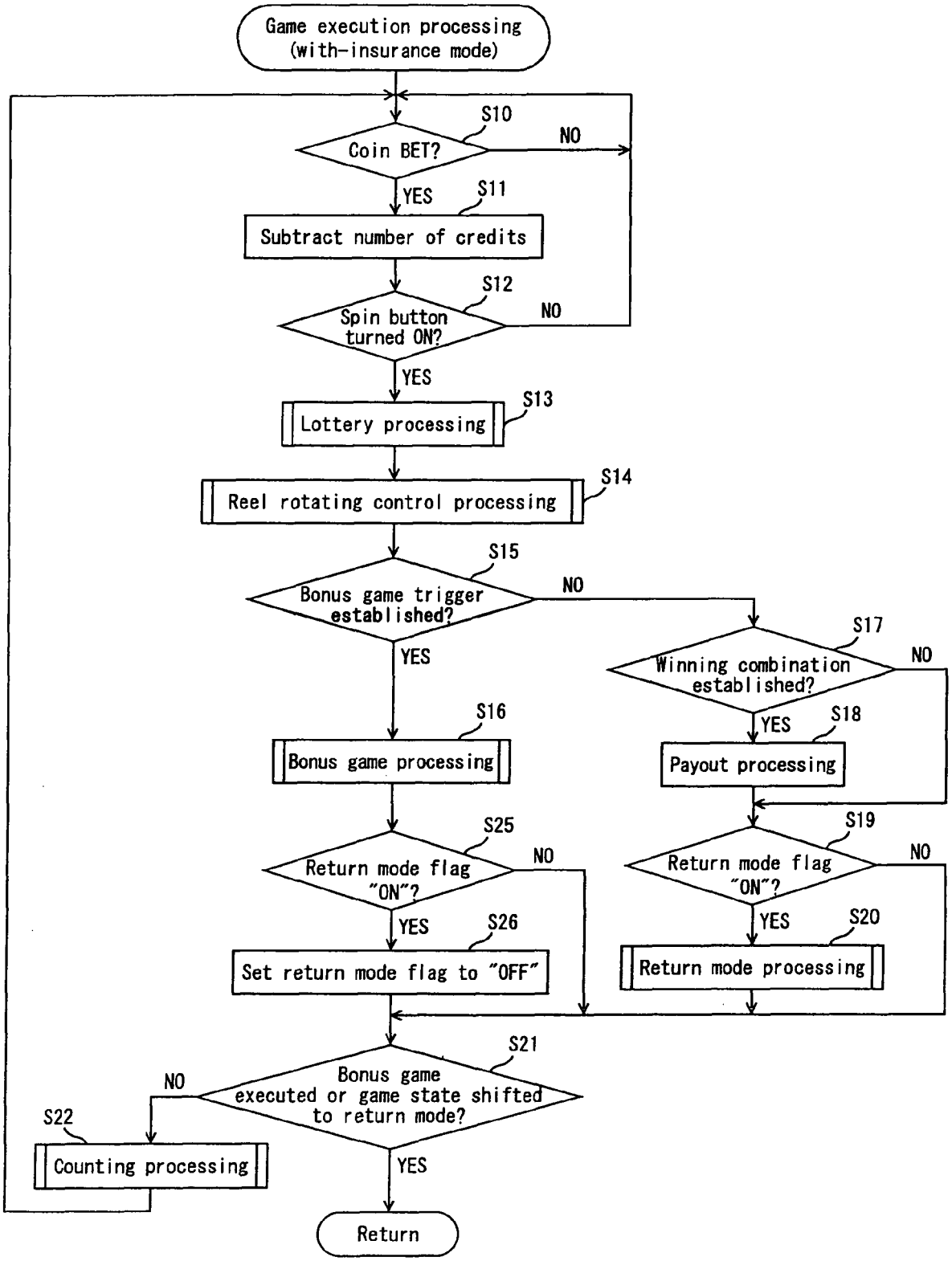

Game execution processing (with-insurance mode)
S10
Coin BET?
NO
YES
S11
Subtract number of credits
S12
Spin button turned ON?
NO
YES
S13
Lottery processing
S14
Reel rotating control processing
S15
Bonus game trigger established?
NO
YES
S16
Bonus game processing
S17
Winning combination established?
NO
YES
S18
Payout processing
S19
Return mode flag "ON"?
NO
YES
S20
Return mode processing
S25
Return mode flag "ON"?
NO
YES
S26
Set return mode flag to "OFF"
S21
Bonus game executed or game state shifted to return mode?
NO
YES
S22
Counting processing
Return

Fig. 25

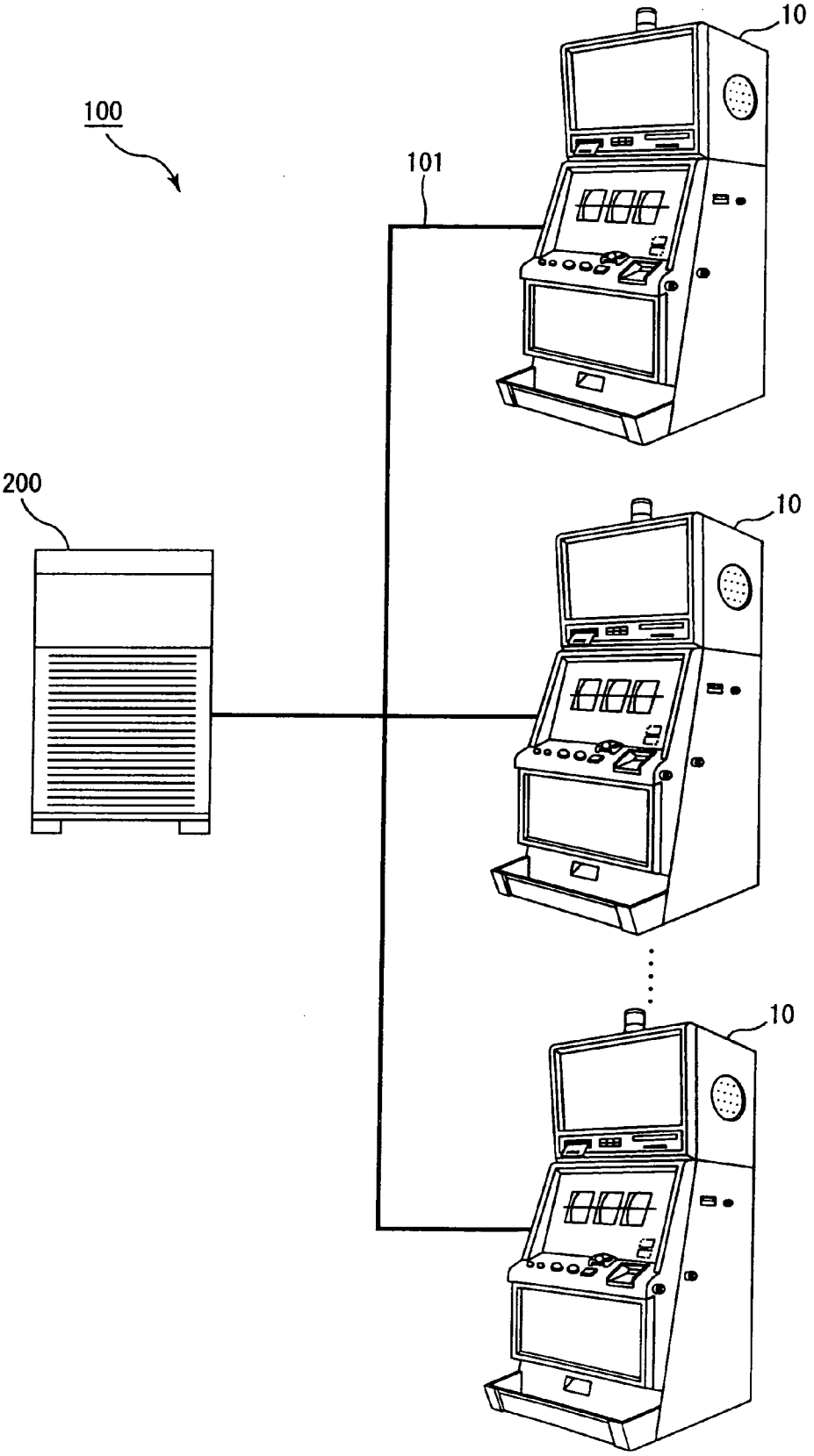


Fig. 26

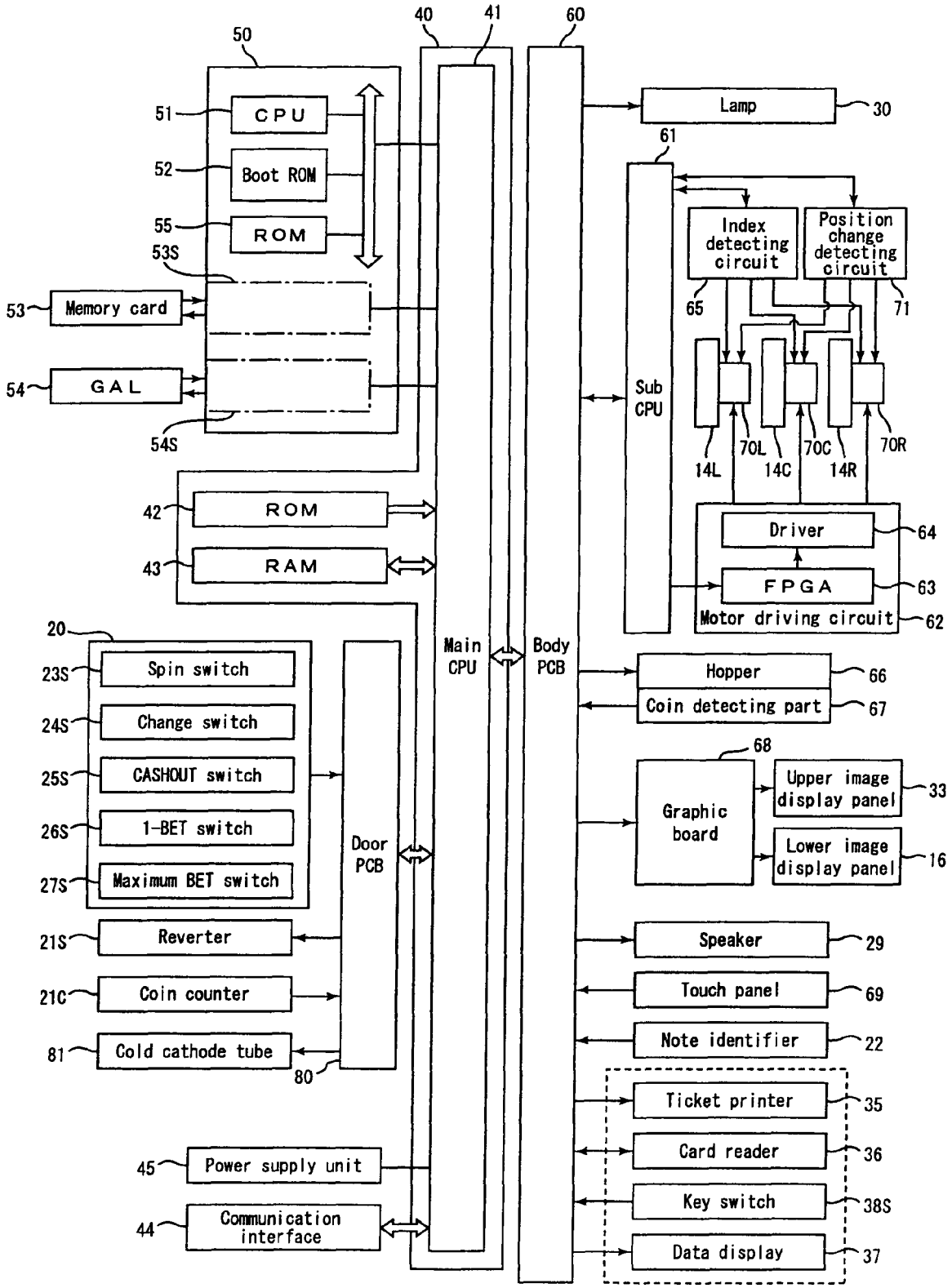

40
41
60
50
51
CPU
52
Boot ROM
55
ROM
53S
53
Memory card
54
GAL
54S
Lamp
30
61
Index detecting circuit
Position change detecting circuit
65
71
Sub CPU
14L
70L
14C
70C
14R
70R
Driver
64
FPGA
63
Motor driving circuit
62
42
ROM
43
RAM
20
23S
Spin switch
24S
Change switch
25S
CASHOUT switch
26S
1-BET switch
27S
Maximum BET switch
Main CPU
Body PCB
Door PCB
Hopper
66
Coin detecting part
67
68
Graphic board
Upper image display panel
33
Lower image display panel
16
21S
Reverter
21C
Coin counter
81
Cold cathode tube
80
Speaker
29
Touch panel
69
Note identifier
22
Ticket printer
35
Card reader
36
Key switch
38S
Data display
37
45
Power supply unit
44
Communication interface

Fig. 27

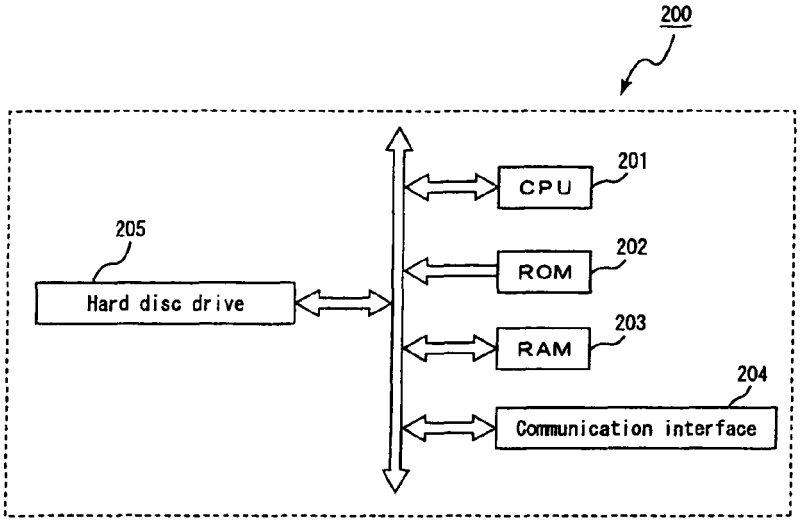


Fig. 28

Gaming machine identification number	Number of games	Accumulative number of coin-in	Accumulative number of coin-out	Payment balance	Return rate (%)	Set value	Preliminary announcement set value	Counting value
001	550	30000	27000	-3000	90	600	550	50
002	570	30000	33000	3000	110	600	550	30
003	590	60000	45000	-15000	75	600	550	10
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

Fig. 29

Set value	Number of coin-out
600	1000

Fig. 30

Set value	Number of coin-out
600	(- payment balance) × 50% (provided that the number of coin-out = 1000 if a payment balance ≧ 0)

Fig. 31

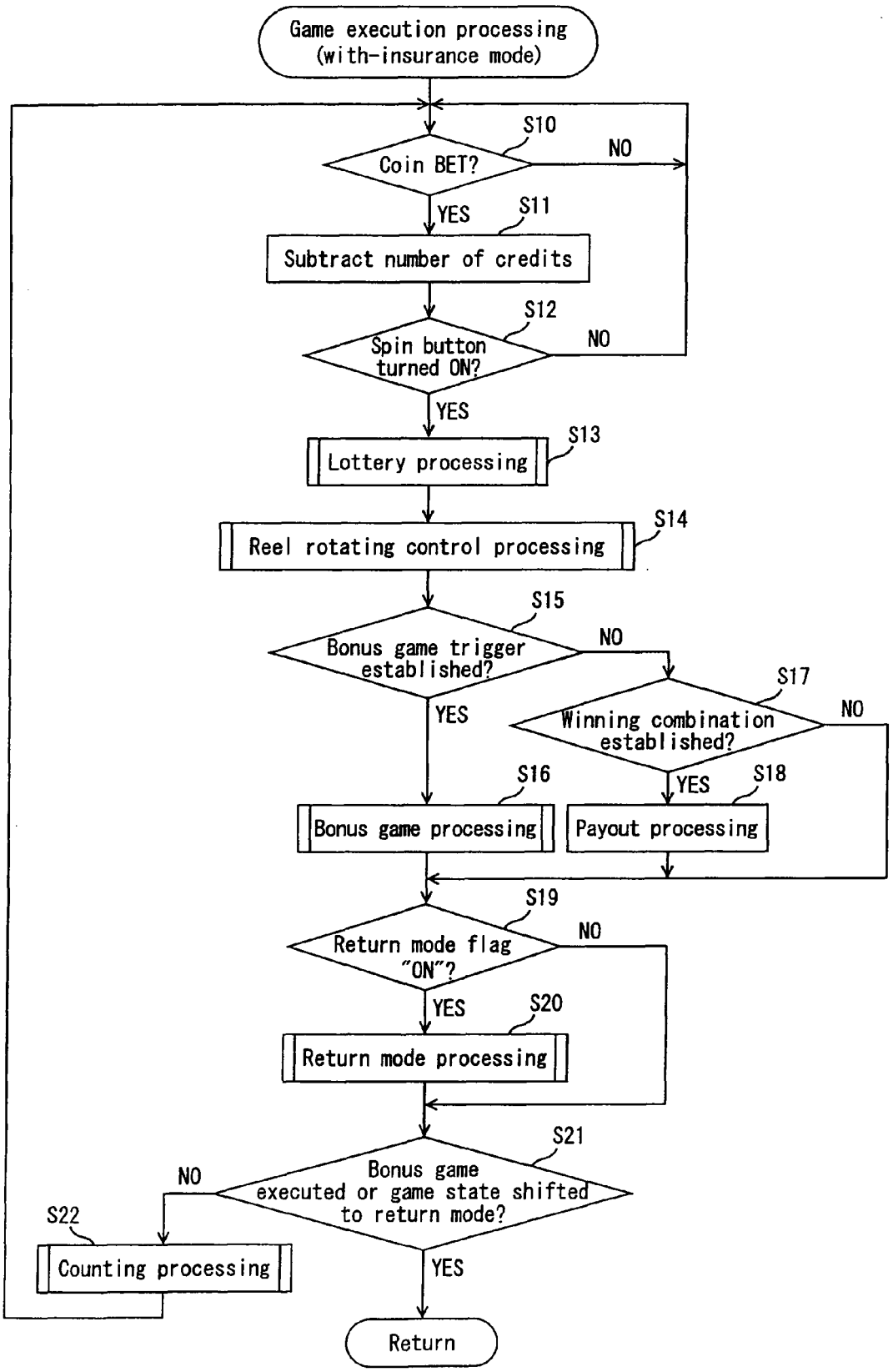

Game execution processing (with-insurance mode)
S10
Coin BET?
NO
YES
S11
Subtract number of credits
S12
Spin button turned ON?
NO
YES
S13
Lottery processing
S14
Reel rotating control processing
S15
Bonus game trigger established?
NO
YES
S17
Winning combination established?
NO
YES
S16
Bonus game processing
S18
Payout processing
S19
Return mode flag "ON"?
NO
YES
S20
Return mode processing
S21
Bonus game executed or game state shifted to return mode?
NO
YES
S22
Counting processing
Return

Fig. 32

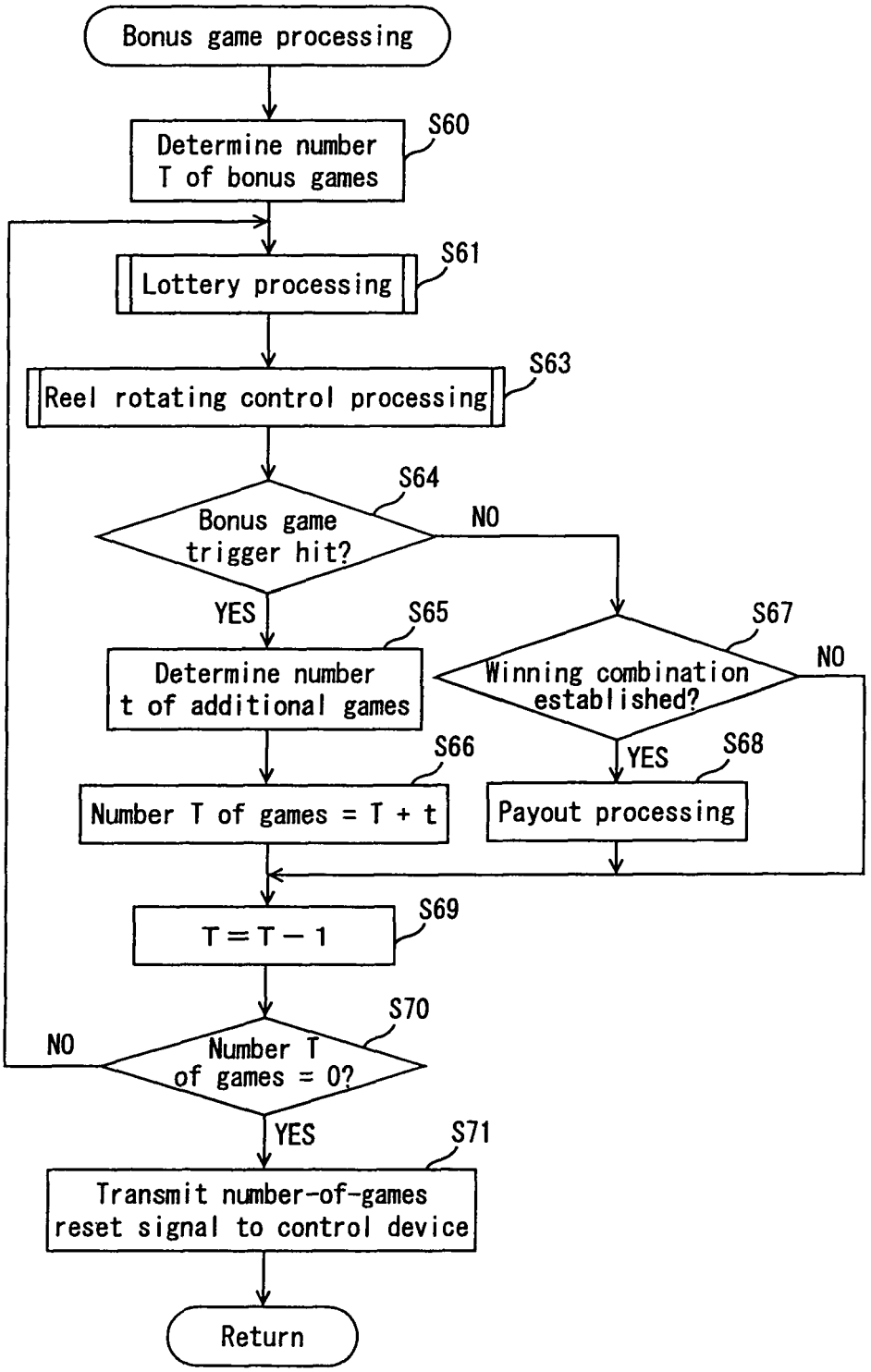

Bonus game processing
Determine number T of bonus games
S60
Lottery processing
S61
Reel rotating control processing
S63
Bonus game trigger hit?
S64
NO
YES
Determine number t of additional games
S65
Winning combination established?
S67
NO
YES
S68
Payout processing
Number T of games = T + t
S66
T = T − 1
S69
Number T of games = 0?
S70
NO
YES
Transmit number-of-games reset signal to control device
S71
Return

Fig. 33

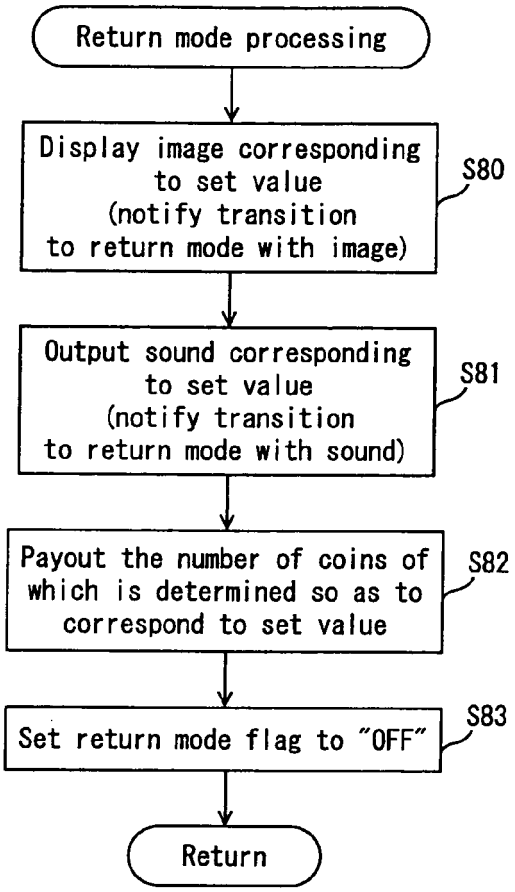

Return mode processing
Display image corresponding to set value (notify transition to return mode with image)
S80
Output sound corresponding to set value (notify transition to return mode with sound)
S81
Payout the number of coins of which is determined so as to correspond to set value
S82
Set return mode flag to "OFF"
S83
Return

Fig. 34

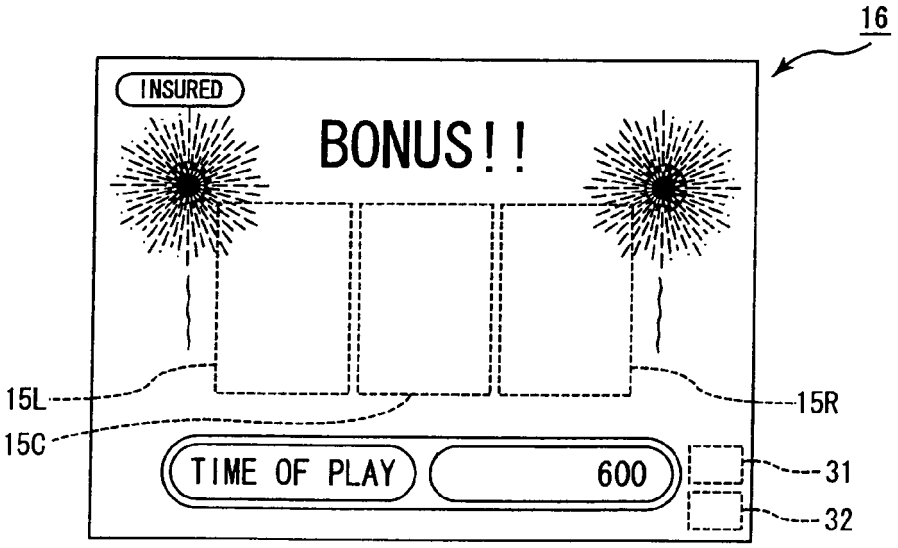

16
INSURED
BONUS!!
15L
15C
15R
TIME OF PLAY
600
31
32

Fig. 35

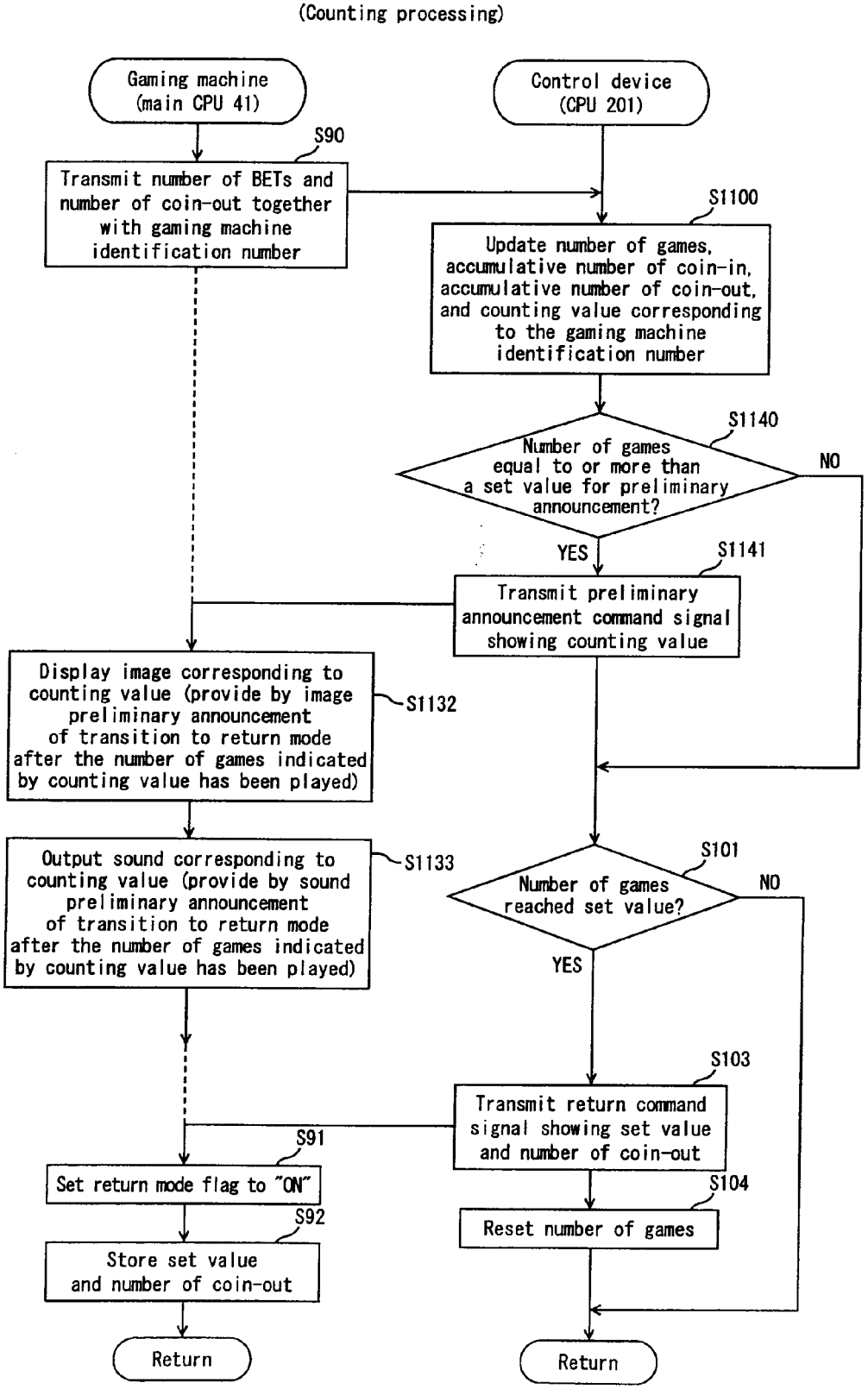

(Counting processing)
Gaming machine (main CPU 41)
Control device (CPU 201)
S90
Transmit number of BETs and number of coin-out together with gaming machine identification number
S1100
Update number of games, accumulative number of coin-in, accumulative number of coin-out, and counting value corresponding to the gaming machine identification number
S1140
Number of games equal to or more than a set value for preliminary announcement?
NO
YES
S1141
Transmit preliminary announcement command signal showing counting value
Display image corresponding to counting value (provide by image preliminary announcement of transition to return mode after the number of games indicated by counting value has been played)
S1132
Output sound corresponding to counting value (provide by sound preliminary announcement of transition to return mode after the number of games indicated by counting value has been played)
S1133
S101
Number of games reached set value?
NO
YES
S103
Transmit return command signal showing set value and number of coin-out
S91
Set return mode flag to "ON"
S104
Reset number of games
S92
Store set value and number of coin-out
Return
Return

Fig. 36A

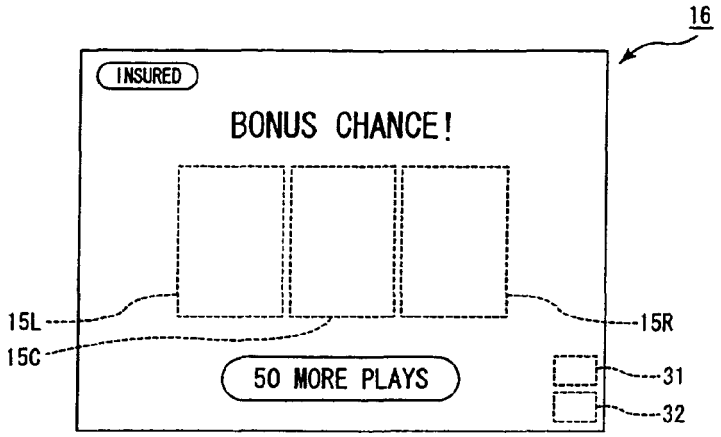


Fig. 36B

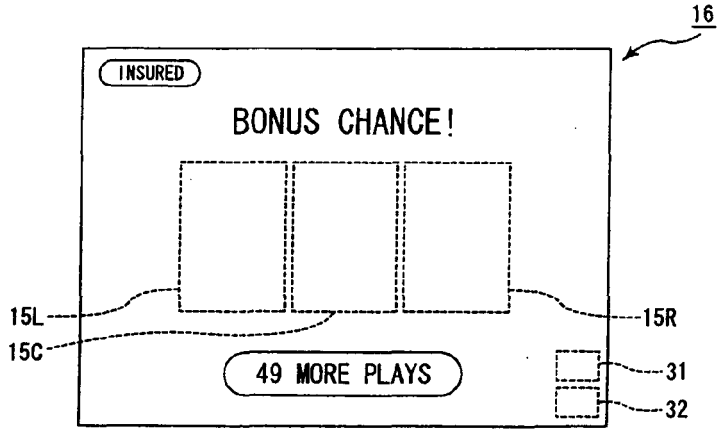


Fig. 37

Gaming machine identification number	Number of games	Accumulative number of coin-in	Accumulative number of coin-out	Payment balance	Return rate (%)	Set value	Preliminary announcement set value	Counting value
001	550	30000	27000	-3000	90	600	550	50
002	1130	30000	33000	3000	110	1200	1125	70
003	2300	60000	45000	-15000	75	2400	2300	100
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

Fig. 38

Set value	Number of coin-out
600	1000
1200	2000
2400	4000

Fig. 39

Set value	Number of coin-out
600	(− payment balance) × 50% (provided that the number of coin-out = 1000 if a payment balance≧0)
1200	(− payment balance) × 60% (provided that the number of coin-out = 2000 if a payment balance≧0)
2400	(− payment balance) × 70% (provided that the number of coin-out = 4000 if a payment balance≧0)

Fig. 40

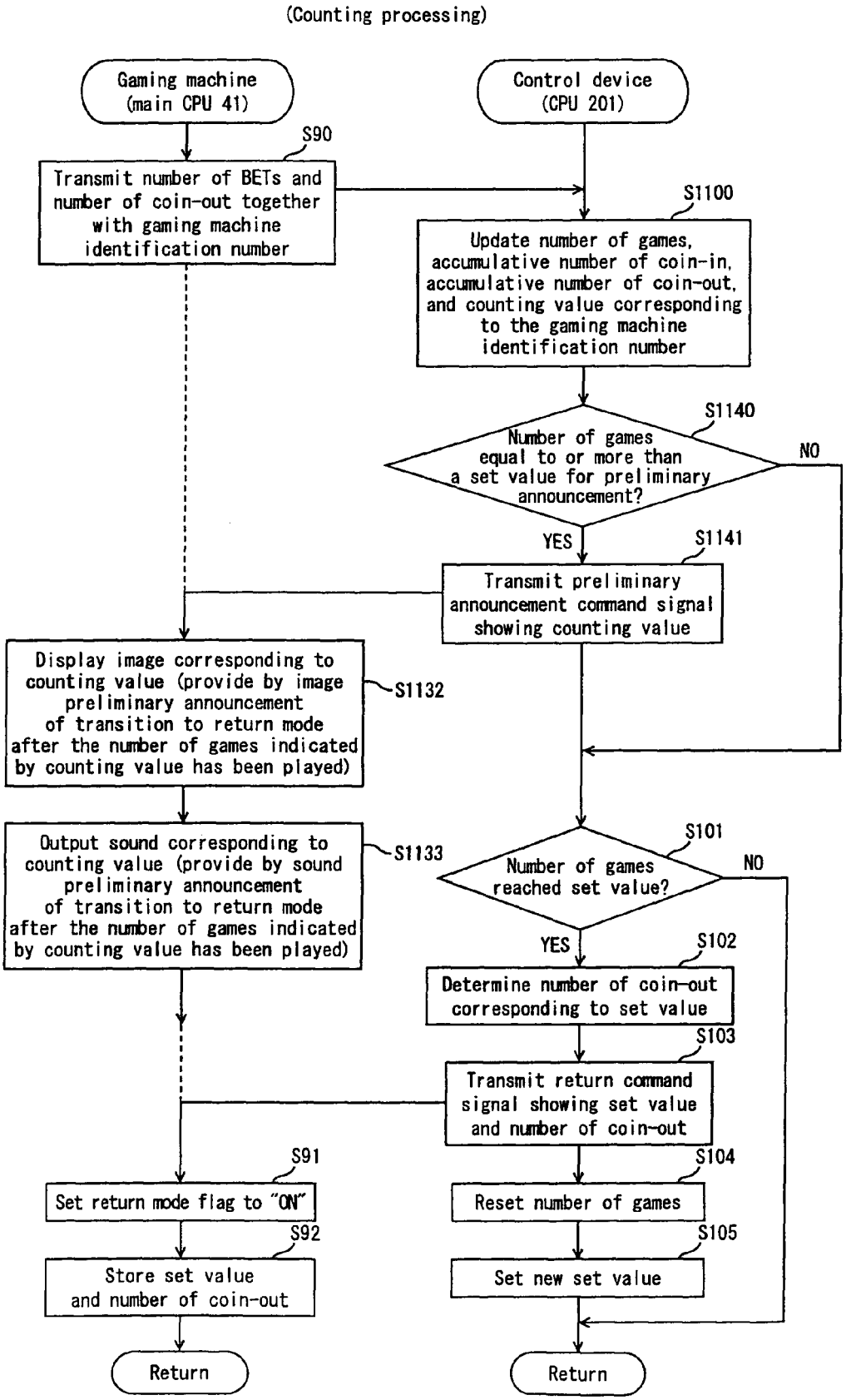

(Counting processing)
Gaming machine (main CPU 41)
Control device (CPU 201)
S90
Transmit number of BETs and number of coin-out together with gaming machine identification number
S1100
Update number of games, accumulative number of coin-in, accumulative number of coin-out, and counting value corresponding to the gaming machine identification number
S1140
Number of games equal to or more than a set value for preliminary announcement?
NO
YES
S1141
Transmit preliminary announcement command signal showing counting value
Display image corresponding to counting value (provide by image preliminary announcement of transition to return mode after the number of games indicated by counting value has been played)
S1132
Output sound corresponding to counting value (provide by sound preliminary announcement of transition to return mode after the number of games indicated by counting value has been played)
S1133
S101
Number of games reached set value?
NO
YES
S102
Determine number of coin-out corresponding to set value
S103
Transmit return command signal showing set value and number of coin-out
S91
Set return mode flag to "ON"
S92
Store set value and number of coin-out
S104
Reset number of games
S105
Set new set value
Return
Return

Fig. 41A

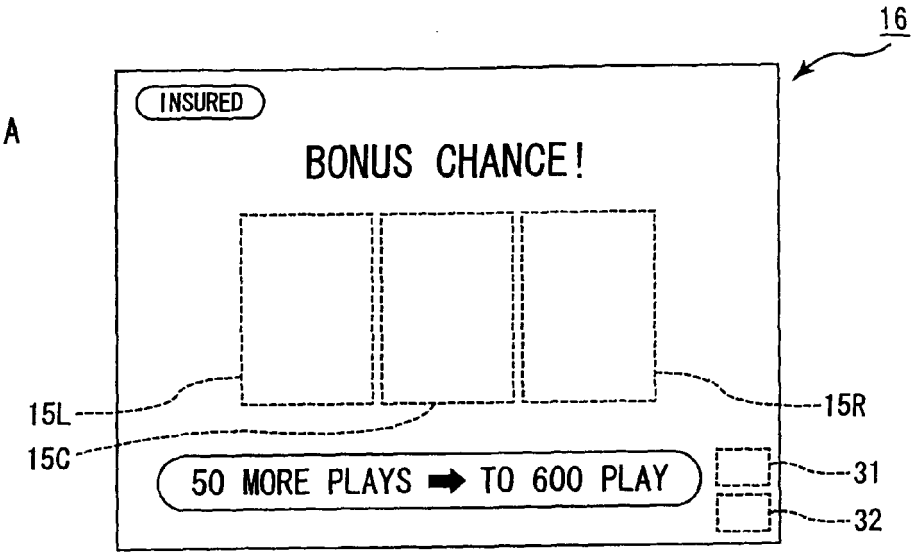


Fig. 41B

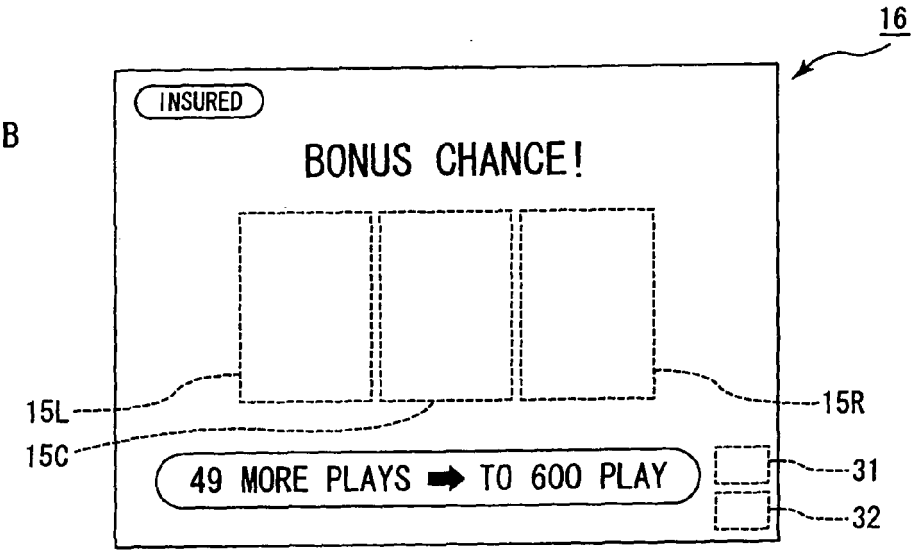
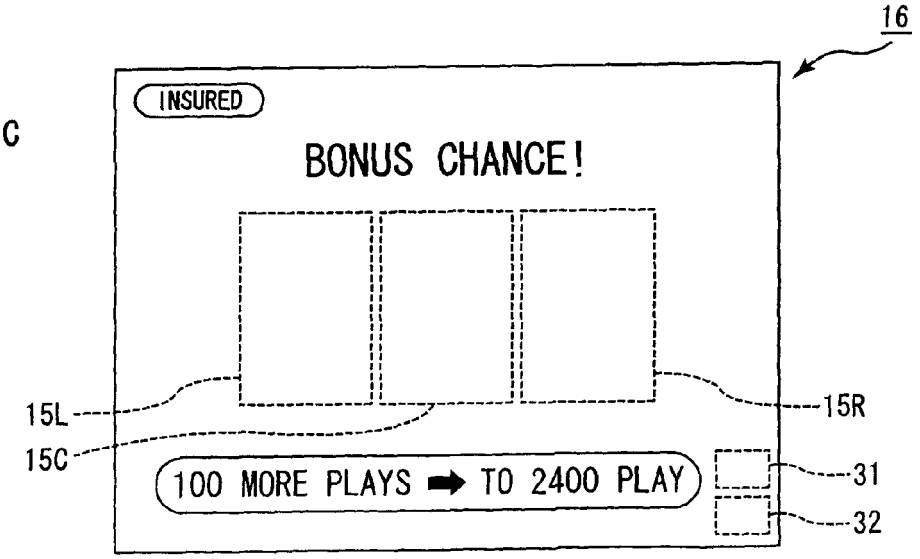


Fig. 41C



European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 29 0374

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2004/095383 A (IGT RENO NEV [US]; WELLS WILLIAM R [US]; MATTICE HAROLD E [US]; GRISWO) 4 November 2004 (2004-11-04) * page 6, lines 9-31 * * page 7, lines 1-9 * * page 8, lines 19-22 * * page 14, lines 28-30 * * page 15, lines 30,31 * * page 17, lines 22,23 * * page 19, lines 4-8 * * page 20, lines 8,9 *	1-49	INV. G07F17/32
X	EP 1 544 811 A2 (WMS GAMING INC [US]) 22 June 2005 (2005-06-22) * paragraphs [0001] - [0015] *	1-49	

TECHNICAL FIELDS SEARCHED (IPC)

G07F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	16 November 2006	Verhoef, Peter

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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16-11-2006

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2004095383 A	04-11-2004	AU 2004232143 A1	04-11-2004
		CA 2518083 A1	04-11-2004
		EP 1606776 A1	21-12-2005
		US 2004192442 A1	30-09-2004
EP 1544811 A2	22-06-2005	AU 2004235604 A1	30-06-2005
		CA 2487575 A1	10-06-2005

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Patent documents cited in the description

- JP 2003117053 A **[0005]**
- US 5820459 A **[0005]**