(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 564 697 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
17.08.2005 Bulletin 2005/33

(51) Int Cl.[7]: **G07F 17/32**

(21) Application number: **05002673.1**

(22) Date of filing: **09.02.2005**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR LV MK YU

(30) Priority: **10.02.2004 JP 2004033997**

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

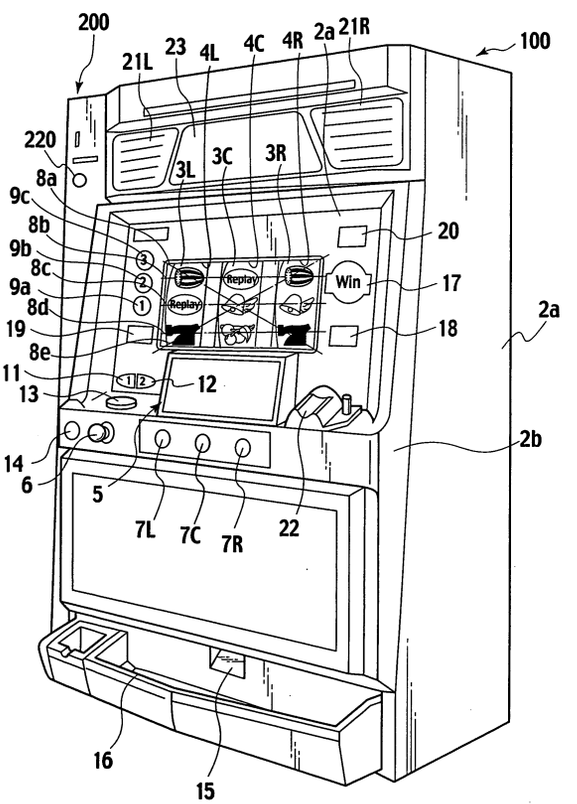
(72) Inventor: **Okada, Kazuo**
Tokyo 135-0063 (JP)

(74) Representative: **HOFFMANN - EITLE**
Patent- und Rechtsanwälte
Arabellastrasse 4
81925 München (DE)

(54) Game-medium renting machine

(57) A game-medium renting machine, by which medals, for use in a gaming machine, are rented depending on an amount of value subtracted from an outstanding balance of a prepaid card read out by a value read-out unit, is disclosed wherein a predetermined amount of value is subtracted from the outstanding balance of the prepaid card without renting the medals based on a predetermined operation executed by a player and determines to provide the player with a predetermined number of medals under a situation where the number of consumed medals, indicative of a difference between the number of medals used in the gaming machine, and the number of medals obtained a play on the gaming machine.

FIG.1



EP 1 564 697 A2

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a game-medium renting machine for renting game-medium for use in a gaming machine depending on a value subtracted from a value read out by a reader.

2. Description of the Related art

[0002] In the related art, there has been known a game-medium renting machine for renting a predetermined number of game-media to a gaming machine (such as a slot machine or a pachinko gaming machine) wherein game-media (such as medals or gaming-balls) are used for playing games (as disclosed for instance, in Japanese Patent Application Laid Open Publication No. 2002-143539).

[0003] In particular, the conventional game-medium renting machine is located, for instance, between adjacent gaming machines and has an insertion slot for inserting money such as bills and coins. Also, the conventional game-medium renting machine has a structure in which game-media are rented to a player depending on the amount of value (such as game-medium rental fee) subtracted from the amount of money inserted to the insertion slot.

[0004] Meanwhile, as one of the feature of the conventional gaming machines, there has been known a "player-saving function" which saves the player by notifying operation procedures for aligning symbols in predetermined pay-lines. More particularly, this function refers the number of game-media being consumed by the player and the number of game-media being paid out for the player, in case where even if the player plays a predetermined number of games without having bonus games (such as BB = Big Bonus, RB = Regular Bonus), the consumed number is greater than the paid out number, and the player's loss reaches a predetermined value, then the player-saving function notifies the player with the operational procedures. By this notifying, the player acknowledges how to align the symbols in the predetermined winning combination.

[0005] The gaming machine with such a player-saving function has had a success in providing an entertaining by decreasing the loss of the player.

SUMMARY OF THE INVENTION

[0006] However, among the conventional gaming machines, there is a gaming machine with no function to save the player and such a gaming machine encounters issues with a difficulty in reducing the loss of the player.

[0007] The present invention has been completed with a view to addressing the above issues and has an object to provide a game-medium renting machine that, even under a situation where a gaming machine has no function to save a player, has a capability of reducing a loss of the player resulting from playing the gaming machine.

[0008] To achieve the above object, an aspect of the present invention provides a game-medium renting machine comprising: a reading means for reading out a value; game-medium renting means for renting game-medium, for use in a gaming machine, depending on a value subtracted from the value read out by the reading means; subtracting means for subtracting a first value from the value read out by the reading means based on a predetermined operation executed by a player without causing the game-medium to be rented by the game-medium renting means; and providing means for providing the player with a predetermined value when the first value is subtracted by the subtracting means and a predetermined condition is established.

[0009] With such a feature, under circumstances where the first value is subtracted from the value read out by the reading means as the supplemental-value and the predetermined condition is satisfied, the game-medium renting machine is operative to allow the player to be given with the predetermined value whereby, even if the gaming machine has no player-saving function, it becomes possible to reduce the loss of the player caused by playing the gaming machine.

[0010] Also, as used herein, the term "predetermined condition" refers to 1) a status where the number of game-media used for the play reaches a predetermined number, 2) a status where the number of consumed game-media, indicative of a difference between the number of game-media used for the play and the number of game-media paid out for the player, reaches a predetermined amount of consumed game-media (when the losing of the player reaches a predetermined number of losing) and 3) a status where the number of times (the number of games) the games are executed by the player reaches a predetermined number of times.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0011]

FIG. 1 is a view illustrating an external appearance of a gaming machine and game-medium renting machine of a first embodiment according to the present invention.

FIG. 2 is a block diagram illustrating a structure of a main control circuit of the first embodiment according to the present invention.

FIG. 3 is a block diagram illustrating a structure of a game-medium renting machine of the first embodiment according to the present invention.

FIG. 4 is a sequence diagram illustrating operations of the gaming machine and game-medium renting

machine of the first embodiment according to the present invention.

FIG. 5 is a sequence diagram illustrating operations of a gaming machine and game-medium renting machine of a second embodiment according to the present invention.

FIG. 6 is a sequence diagram illustrating operations of a gaming machine and game-medium renting machine of a third embodiment according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Structure of Gamins Machine of First Embodiment according to the Present Invention

[0012] Hereunder, a gaming machine of a first embodiment according to the present invention is described below with reference to the accompanying drawings.

[0013] As shown in FIG. 1, the gaming machine 100 has a cabinet 2a, in which reels 3L, 3C and 3R are accommodated, and a front door 2b that is pivotally mounted to the cabinet 2a. Also, pluralities of symbols, such as symbols of a numeric value of "7" and symbols of a "watermelon" are provided on outer peripheries of the reels 3L, 3C and 3R, respectively.

[0014] Display windows 4L, 4C and 4R are provided on a front panel of the front door 2b, and the symbols provided on the reels 3L, 3C and 3R are visible by a player through the display windows 4L, 4C and 4R.

[0015] On the display windows 4L, 4C, 4R, a total of five pay-lines, which including three pay-lines extending in a lateral direction and two pay-lines extending in oblique direction, are provided, respectively. More particularly, the pay-lines include a cross down pay-line 8a extending from an upper portion of the display window 4L toward a lower portion of the display window 4R, a top pay-line 8b laterally extending on upper portions of the display window 4L to 4R, a center pay-line 8c laterally extending on middle portions of the display window 4L to 4R, a bottom pay-line 8d laterally extending on middle portions of the display window 4L to 4R, and a cross up pay-line 8e extending from a lower portion of the display window 4L to an upper portion of the display window 4R.

[0016] Further, on a left side of the display windows 4L, 4C and 4R, a 1-BET indicator 9a, a 2-BET indicator 9b and a MAX-BET indicator 9c are provided, respectively. The 1-BET indicator 9a indicates when the center pay-line 8c being activated with an embedded lamp (not shown) being turned on, the 2-BET indicator 9b that indicates, in addition to the center pay-line 8c, the top pay-line 8b and the bottom pay-line 8d being activated with an embedded lamp (not shown) being turned on and the MAX-BET indicator 9c that indicates, in addition to these pay-lines 8b, 8c and 8d the cross down pay-line 8a and the cross up pay-line 8e being activated with an embedded lamp being turned on.

[0017] More particularly, upon inserting a single medal (not shown), the 1-BET indicator 9a is turned on and one line of the pay-line 8b (or 8c, 8d) is activated. With two medals inserted, for instance, the 1-BET indicator 9a and the 2-BET indicator 9b are turned on and the pay-lines 8b, 8c and 8d are activated. Likewise, when inserting three or more medals, the 1-BET indicator 9a, the 2-BET indicator and the MAX-BET indicator 9c are turned on and all the pay-lines 8a, 8b, 8c, 8d and 8e are activated, respectively. Also, as used herein the term "an activated pay-line" refers to an activated line.

[0018] Disposed in a lower area of the 1-BET indicator 9a, the 2-BET indicator 9b and the MAX-BET indicator 9c are a credit number display 19 by which the number of medals credited in the gaming machine 100 is displayed, a 1-BET button 11 that, in place of inserting game-medium (hereinafter referred to as medals), allows the betting of one medal that is preliminary credited in the gaming machine, a 2-BET button 12 for betting two medals, and a MAX-BET button 13 for betting three medals (with the maximum number). Also, disposed below the 1-BET button 11, the 2-BET button 12 and the Max-BET button 13 are a start lever 6 from which a game start command signal is outputted for starting one game, and a C/P button 14 for paying out the medals credited in the gaming machine 100.

[0019] Although the first embodiment is described with reference to an example wherein game-medium includes medals, no limitation is intended to such an example and game-medium may include coins, gaming-balls, tokens and prepaid cards in each of which a value for game, given (or to be applied) to a player, is stored.

[0020] Located in a right side of the start lever 6 and the C/P button 14 are a stop buttons 7L, 7C and 7R by which the rotations of the associated reels 3L, 3C and 3R are stopped. Also, the stop buttons 7L, 7C and 7R serve to output stop command signals that command stopping the rotations of the associated reels 3L, 3C and 3R.

[0021] On a right side area of the display windows 4L, 4C and 4R, a bonus count display 20 that displays the number of remaining games during play in an "RB" Game (Regular Bonus Game) and the number of remaining games during play in a Normal Game during play in a "BB" Game (Big-Bonus Game), a WIN lamp 17 being lightened up when the alignment of a symbol combination on the activated lines is matched with a predetermined symbol combination, such as symbol combinations for the BB Games and the RB Games, and a payout number display 18 for displaying the number of medals to be paid out as an award upon alignment of the symbol combination (for instance, symbol combinations related to the "BB" Game and the "RB" Game) on the activated line are provided, respectively. Also, the number of medals, to be paid out as an award, is preliminarily correlated to the winning combinations. Moreover, the payout number display 18 and the credit number display 19 are comprised of LEDs (Light Emit-

ting Diodes) in seven segments with three digits, respectively.

[0022] Disposed in a lower area of the display windows 4L, 4C and 4R is a liquid crystal display device 5 that serves as an effect display means by which effects associated with respective gaming states are displayed.

[0023] Disposed in a right side of the liquid crystal display device 5 is a medal insertion slot 22 for inserting the medals.

[0024] A medal payout opening 15 and a medal receiving tray 16 are provided in a lower area of the stop buttons 7L, 7C, and 7R. More particularly, through the medal payout opening 15, a predetermined number of medals are paid out upon alignment of the symbol combination on the activated line and the paid out medals are accumulated in the medal receiving tray 16.

[0025] Mounted in an upper area of the display windows 4L, 4C and 4R are an award display panel 23 that designates the number of medals to be paid out in correlation to a kind of the winning combinations, symbol combinations related to the wining combinations and the alignment of symbol combinations related to the wining combinations on the activated line, and speakers 21L and 21R that provide sound effects associated with respective gaming states.

[0026] Further, a game-medium renting machine 200 is provided to a left side of the gaming machine 100 by which medals, to be used for the gaming machine 100, are rented to a player. Also, the game-medium renting machine 200 has an insertion slot for inserting moneys, such as bills and coins, and has a capability to allow the medals to be rented to the player depending on an amount of value subtracted from an amount (hereinafter referred to as an inserted amount) of value inserted to the insertion slot. Moreover, a detail of the game-medium renting machine 200 is described below (see FIG. 3).

Structure of Main Control Circuit of Gaming Machine of First Embodiment According to the Present Invention

[0027] Now, a main control circuit 60 of the gaming machine 100 is described with reference to FIG. 2.

[0028] As shown in FIG. 2, the main control circuit 60 is comprised of a microcomputer 30 and a circuit for sampling a predetermined random number.

[0029] The microcomputer 30 is comprised of a main CPU 31, a program ROM 32, a control RAM 33, and an I/O port 38.

[0030] In particular, the main CPU 31 executes a predetermined sequence of operations (for instance, operation for determining a winning combination and operation to stop the reels 3L, 3C and 3R) based on programs stored in the program RAM 32. Also, the main CPU 31 counts the number of medals used for the play (i.e., the number of medals, inserted to the medal insertion slot 22, and the number of medals inserted by predetermined operations for the BET buttons (e.g., 1-BET button 11, 2-BET button 12 and MAX-BET button 13), while counting the number of medals (i.e., the number of medals paid out upon alignment of a symbol combination, associated with a winning combination, on an activated line) paid out upon playing the game. In addition, the main CPU 31 counts the number of consumed medals indicative of a difference between the number of medals used for the play and the number of medals paid out upon playing the game.

[0031] Further, the main CPU 31 transmits consumed-medal number information, related to the number of counted consumed-medals, to the game-medium renting machine 200. Moreover, upon receipt of a reset signal from the game-medium renting machine 200, the main CPU 31 resets the number of consumed medals (to zero). Also, as used herein, the term "reset signal" refers to a signal that is transmitted from the game-medium renting machine 200 when a predetermined operation is executed on a supplemental switch 220 (see FIG. 3) provided in the game-medium renting machine 200.

[0032] The program ROM 32 stores therein programs related to the operations of the main CPU 31. The control RAM 33 has a function to store control data related to the operations of the main CPU 31 for backup purposes.

[0033] The I/O port 38 serves as an interface that receives various input signals from various circuits (a reel position detection circuit 42, a reel stop signal circuit 43 and a payout complete signal generation circuit 53) and various switches (a start switch 6S, an inserted medal sensor 22S, BET switches 11S, 12S, and 13S and a C/P switch 4S) and outputs various output signals to actuators (stepping motors 49L, 49C and 49R for rotating the reels 3L, 3C, 3C and a hopper 52) that are controlled by the microcomputer 30.

[0034] The circuit for sampling the predetermined random number is comprised of a clock pulse generation circuit 34, which generates a series of reference clock pulses, a frequency divider 35, a random number generator 36 that generates a random number in a predetermined range, and a sampling circuit 37 that generates a random number value among random numbers generated by the random number generator 36.

[0035] Connected to the microcomputer 30 are a motor drive circuit 41 that drives the stepping motors 49L, 49C and 49R controlled by the microcomputer 30, and a hopper drive circuit 51 that drives the hopper 52 controlled by the microcomputer 30.

[0036] The hopper 52 serves to pay out a predetermined number of medals when a symbol combination, related to a winning combination, is aligned on an activated line, and a medal detector 52S, which detects medals that are paid out, is mounted to the hopper 52 side by side.

[0037] Further, connected to the microcomputer 30 are the reel position detection circuit 42, the reel stop signal circuit 43, the start switch 6S, the inserted medal sensor 22S, the BET switches 11S, 12S and 13S, the

C/P switch 14S, the payout complete signal generation circuit 53, a sub-control circuit communication port 54, and a card unit communication port 55.

[0038] The reel position detection circuit 42 detects symbols that pass across a predetermined position (such as the centerline 8c during rotations of the reels 3L, 3C and 3R).

[0039] The reel stop signal circuit 43 transmits stop command signals to the microcomputer 30 for stopping the respective reels 3L, 3C and 3R, associated with the stop buttons 7L, 7C and 7R, respectively, depending on the operations executed on the stop buttons 7L, 7C and 7R.

[0040] The start switch 6S transmits a play start command signal to the microcomputer 30 to start a play for one time depending on the operation actuated on the start lever 6.

[0041] The inserted medal sensor 22S detects the medals inserted to the medal insertion slot 22 to transmit a signal, indicative of the medals being inserted, to the microcomputer 30.

[0042] The C/P switch 14S transmits a signal to the microcomputer 30 for permitting the medals, credited in the gaming machine 100, to be paid out depending on the operation actuated on the C/P button 14.

[0043] The payout complete signal generation circuit 53 generates a signal, indicating that the medals are completely paid out, when the number of medals (the number of medals that are actually paid out) detected by the medal detector 52S reaches the number of medals commanded for payout.

[0044] The sub-control circuit communication port 54 transmits a command, outputted from the microcomputer 30, to a sub-control circuit 80. Further, the sub-control circuit 80 controls the liquid crystal display device 5 and the speakers 21L and 21R based on the command received via the sub-control circuit communication port 54. Furthermore, the sub-control circuit 80 executes contents of effects for increasing an entertaining and exciting value of a play using the liquid crystal display device 5 and the speakers 21L and 21 R.

[0045] The card unit communication port 55 serves as an interface for communication between the gaming machine 100 and the game-medium renting machine 200.

Structure of Card Unit of First Embodiment According to the Invention

[0046] Hereunder, description is made of a structure of the game-medium renting machine 200 with reference to FIG. 3.

[0047] As shown in FIG. 3, the game-medium renting machine 200 is comprised of a communication interface 210, the supplemental switch 220, a value readout unit (as a reader) 230, a medal payout unit (including a game-medium renting unit and a providing unit) 240 and a control unit (subtracting unit, subtracting means) 250.

[0048] The communication interface 210 serves as an interface for communication between the gaming machine 100 and the game-medium renting machine 200, and the communication interface 200 is connected to the card unit communication port 55 as shown in FIG.2.

[0049] The supplemental switch 220 serves as a switch to activate a supplemental function to pay out a predetermined number of medals (the number of medals depending on a supplemental-value) when the number of consumed medals reaches the predetermined number of consumed medals by subtracting a predetermined amount, as the supplemental-value, from the amount (inserted amount) of money read by the value readout unit. Also, the supplemental switch 220 transmits a signal, indicating that a predetermined operation is executed on the supplemental switch 220, to the control unit 250.

[0050] The value readout unit 230 of the game-medium renting machine 200 has the insertion slot, through which money, such as bills and coins, is inserted, and reads out the amount (the inserted amount) of money that is inserted through the insertion slot. For instance, the value readout unit 230 may be structured to read out a value (outstanding balance) stored in a prepaid card.

[0051] Also, with the first embodiment, the value readout unit 230 constitutes a reader by which a value (of an inserted amount of and an outstanding balance of a prepaid card) is read out.

[0052] The medal payout unit 240 serves to pay out a predetermined number of medals to a player in accordance with the control of the control unit 250.

[0053] Also, with the first embodiment, the medal payout unit 240 constitutes a game-medium renting unit (game-medium renting means) that allows the payout of game-media (such as medals) to be used for the gaming machine depending on a value (medal rental fee) that is subtracted from the value (of the inserted amount and the outstanding balance of the prepaid card) read out by the value readout unit (reader, reading means) 230.

[0054] The control unit 250 subtracts amounts, selected by the player as the medal rental fee, from the inserted amount read out by the value readout unit 230 and controls the medal payout unit 240 so as to pay out the medals to the player depending on the medal rental fee.

[0055] The control unit 250 transmits a reset signal to the gaming machine 100 for resetting the number of consumed medals counted in the gaming machine 100 when the predetermined operation is executed on the supplemental switch 220. Moreover, the control unit 250 subtracts a predetermined amount of value from the inserted amount of value, read out by the value readout unit (reader) 230, as a supplemental-value and activates the supplemental function. Also, the predetermined amount of value to be subtracted as the supplemental-value may be selected by the player.

[0056] The control unit 250 discriminates whether the number of consumed medals reaches a predetermined

number of consumed medals depending on consumed-medal number information received from the gaming machine 100. Further, the control unit 250 controls the medal payout unit 240 so as to pay out a predetermined number of medals (equivalent to the number of medals depending on the supplemental-value) to the player when the predetermined operation is executed on the supplemental switch 220 (e.g., when the supplemental function is activated) and when discrimination is made that the number of consumed medals reaches the predetermined number of medals.

[0057] Also, with the first embodiment, the control unit 250 constitutes a subtracting unit (subtracting means) that subtract a first value (supplemental-value) from a value read out by the value read out unit (reader) 230 in response to the predetermined operation executed by the player without renting game-medium (medals).

[0058] Further, with the first embodiment, the medal payout unit 240 and the control unit 250 constitute a providing unit (providing means) by which a player is given with a predetermined value (the number of medals depending on the supplemental-value) under circumstances where the first value (supplemental-value) is subtracted and a predetermined condition is established.

[0059] Also, although the first embodiment is described in connection with the term "predetermined condition" that refers to a case wherein the number of consumed medals reaches the predetermined number of medals, no limitation is intended to such an example and an alternative may include 1) a case wherein the number of medals used for a play reaches a predetermined number of medals; 2) a case wherein the number of times (the number of games) the games are played; and 3) a case wherein dividends (the number of medals supposed to be obtained), corresponding to winning combinations (symbol combinations) that could not be actually aligned on an activated line, reaches a predetermined number of values.

Operation of Gaming Machine and Card Unit of First Embodiment According to the Present Invention

[0060] Now, description is made of operations of the gaming machine 100 and the game-medium renting machine 200 of the first embodiment according to the present invention with reference to FIG. 4.

[0061] As shown in FIG. 4, in step10, the game-medium renting machine 200 reads out the amount (inserted amount) of money (bills and coins) that is inserted through the insertion slot by a player.

[0062] In step 11, the game-medium renting machine 200 discriminates whether the supplemental switch 220 is turned on (e.g., whether the supplemental function is activated). Also, with the supplemental switch 220 turned on, the game-medium renting machine 200 allows the operation to proceed to step 12 and with the supplemental switch 220 turned off, the operation proceeds to step 13.

[0063] In step 12, the game-medium renting machine 200 subtracts a predetermined amount of value from the inserted amount of value, which is read out, as a supplemental-value. Also, in step 13, the game-medium renting machine 200 subtracts the amount of value, selected by the player as the supplemental-value, from the inserted amount of value that is read out and rents the number of medals, depending on the subtracted medal rental fee, to the player.

[0064] In step 14, the gaming machine 100 transmits consumed-medal number information, related to the number of consumed medals equivalent to a difference between the number of medals used for the plays and the number of medals that are paid out, to the game-medium renting machine 200. In particular, the main CPU 31 of the gaming machine 100 counts the number of medals inserted to the insertion slot and the number of medals inserted by predetermined operations executed on the BET buttons (the 1-BET button 11, the 2-BET button 12 and the MAX-BET button 13), as the number of medals used for the plays. Also, the main CPU 31 of the gaming machine 100 counts the number of medals paid out by the alignment of the symbol combination; related to a pay-line, on the activated line. In addition, the main CPU 31 of the gaming machine 100 counts the number of consumed medals based on the number of counted medals and transmits consumed-medal information, related to the number of consumed medals, at predetermined timings (for instance, each for one game). In step 15, the game-medium renting machine 200 receives consumed-medal information.

[0065] In step 16, the game-medium renting machine 200 discriminates whether the supplemental switch 220 is turned on (whether the supplemental function is activated). Also, with the supplemental switch 220 turned on, the game-medium renting machine 200 allows the operation to proceed to step 17 and with the supplemental switch 220 turned off, the operation is routed back to step 10.

[0066] In step 17, the game-medium renting machine 200 discriminates whether the number of consumed medals reaches the predetermined number of consumed medals based on consumed-medal number information that is received. Also, if the number of consumed medals reaches the predetermined number of consumed medals, the game-medium renting machine 200 proceeds the operation to step 18 and if the number of consumed medals does not reach the predetermined number of consumed medals, the operation is routed back to step 10.

[0067] In step 18, the game-medium renting machine 200 pays out a predetermined number of medals to the player depending on the amount of value subtracted from the inserted amount of value as the supplemental-value in an event that a predetermined operation is executed on the supplemental switch 220. Also, the game-medium renting machine 200 stops the activation of the supplemental function.

[0068] Also, with the first embodiment, while the game-medium renting machine 200 is structured such that a decision is made to pay out the number of medals depending on the supplemental-value when the number of consumed medals reaches the predetermined number of consumed medals during the activation of the supplemental function, no limitation is intended to such a structure and an alternative may be structured such that the amount of value depending on the supplemental-value is added to the inserted amount of value (or to the amount of an outstanding balance of a credit card).

[0069] Further, although the first embodiment has been described with reference to the gaming machine 100 that is comprised of a slot machine, no limitation is intended to such an application and an alternative may include a pachinko gaming machine.

Operation and Effects of Card unit of First Embodiment according to the Present Invention

[0070] With the game-medium renting machine 200 according to the present invention, the game-medium renting machine 200 subtracts a predetermined amount of value from the inserted amount of value, as a supplemental-value, which is read out by the value readout unit 230 whereby in cases where the number of consumed medals reaches a predetermined number of consumed medals (i.e., when the number of medals, corresponding to a value lost by the player, reaches a predetermined number of medals), a player is given with the number of medals depending on a predetermined amount of value, subtracted as a supplemental-value, such that even if the gaming machine has no function to save the player, a loss of the player, occurring when playing with the gaming machine, can be minimized.

Second Embodiment

Operations of Gaming Machine and Card unit of Second Embodiment according to Present Invention

[0071] The gaming machine and the card unit according to the present invention are not limited to particular structures described with reference to the first embodiment. That is, with the first embodiment, although the game-medium renting machine 200 determines whether to provide a predetermined number of medals to a player in cases where during the activation of the supplemental function, the number of consumed medals reaches a predetermined number of consumed medals, a second embodiment contemplates the provision of a structure wherein the gaming machine 100 determines whether to provide a predetermined number of medals to a player.

[0072] Hereunder, referring to FIG. 5, the operations of the gaming machine 100 and the game-medium renting machine 200 of the second embodiment according to the present invention are described.

[0073] As shown in FIG. 5, in step 30, the game-medium renting machine 200 reads out the amount of money (bills and coins) inserted through the insertion slot by the player.

[0074] In step 31, the game-medium renting machine 200 discriminates whether the supplemental switch 220 is turned on (i.e., whether the supplemental function is activated). Also, with the supplemental switch 220 turned on, the game-medium renting machine 200 allows the operation to proceed to step 32 and with the supplemental switch 220 turned off, the operation proceeds to step 33.

[0075] In step 32, the game-medium renting machine 200 subtracts a predetermined amount of value, as a supplemental-value, from an inserted amount of value that is read out and transmits a supplemental switch turn-on signal, indicative of turning on the supplemental switch 220, to the gaming machine 100. Also, in step 33, the game-medium renting machine 200 subtracts the amount of medals, selected by the player, as a rental fee from the inserted amount of medals that are read out and rents the number of medals, depending on the subtracted medal rental fee, to the player. Additionally, in step 34, the gaming machine 100 receives the supplemental switch turn-on signal from the game-medium renting machine 200.

[0076] In step 35, the gaming machine 100 calculates the number of consumed medals, corresponding to a difference between the number of medals used for the play and the number of medals that are paid out. Also, the gaming machine 100 calculates the number of consumed medals at predetermined timings (for instance, each for one game).

[0077] In step 36, the gaming machine 100 discriminates whether calculated consumed-medal number information reaches a predetermined number of consumed medals. Also, if calculated consumed-medal number information reaches the predetermined number of consumed medals, then, the game-medium renting machine 200 allows the operation to proceed to step 37 and if calculated consumed-medal number information does not reach the predetermined number of consumed medals, the operation is routed back to step 34.

[0078] In step 37, in response to the supplemental switch turn-on signal received from the game-medium renting machine 200, the gaming machine 100 discriminates whether the supplemental switch 220 is turned on (i.e., whether the supplemental function is activated). Also, with the supplemental switch 220 turned on, the game-medium renting machine 200 allows the operation to proceed to step 38 and with the supplemental switch 220 turned off, the operation is routed back to step 34.

[0079] In step 38, the gaming machine 100 transmits a medal payout request signal to the game-medium renting machine 200 for requesting the same to pay out the number of medals based on the supplemental function and, in step 39, the game-medium renting machine

200 receives the medal payout request signal.

[0080] In step 40, when a predetermined operation is executed on the supplemental switch 220, the game-medium renting machine 200 pays out a predetermined number of medals to the player depending on the amount of value subtracted from the inserted amount of money as the supplemental-value. Also, the game-medium renting machine 200 transmits a supplemental switch turn-off signal, indicative of turning off the supplemental switch 220 (for interrupting the activation of the supplemental function), to the gaming machine 100. Additionally, in step 41, the gaming machine 100 receives the supplemental switch turn-off signal.

[0081] Also, while the second embodiment has been described with reference to the gaming machine 100 comprised of the slot machine, no limitation is intended to such a structure and an alternative may include a pachinko gaming machine.

Third Embodiment

Operations of Gaming Machine and Card Unit of Third Embodiment according to the Present Invention

[0082] A gaming machine and card unit according to the present invention are not limited to the structures described above with reference to the first embodiment. That is, while with the first embodiment, the payout operation of game-medium (medals) is executed by the game-medium renting machine 200, a third embodiment contemplates the provision of a structure wherein the payout operation of game-medium (payout operation) is performed by the gaming machine 100. Also, the third embodiment is described with reference to a case where the gaming machine 100 is comprised of a pachinko gaming machine wherein the game-medium renting machine 200 reads out an outstanding balance of a prepaid card.

[0083] Hereunder, referring to FIG. 6, description is made of the gaming machine 100 and the game-medium renting machine 200 of the third embodiment according to the present invention.

[0084] As shown in FIG. 6, in step 50, the game-medium renting machine 200 reads out an outstanding balance of a prepaid card inserted to a card insertion slot by a player.

[0085] In step 51, the game-medium renting machine 200 discriminates whether the supplemental switch 220 is turned on (i.e., whether the supplemental function is activated). Also, with the supplemental switch 220 turned on, the game-medium renting machine 200 allows the operation to proceed to step 52 and with the supplemental switch 220 turned off, the game-medium renting machine 200 allows the operation to proceed to step 53.

[0086] In step 52, the game-medium renting machine 200 subtracts a predetermined amount of value from the outstanding balance of the prepaid card as a supplemental-value.

[0087] In step 53, the game-medium renting machine 200 subtracts the predetermined amount of value, selected by the player, from the outstanding balance of the prepaid card, as a gaming-ball rental fee and transmits a gaming-ball renting command signal to the gaming machine 100 for renting the number of gaming-balls to the player depending on the gaming-ball rental fee. Also, in step 54, the gaming machine 100 receives the gaming-ball renting command signal from the game-medium renting machine 200.

[0088] In step 55, the gaming machine 100 pays out the predetermined number of gaming-balls to the player in response to the received gaming-ball renting command signal.

[0089] In step 56, the gaming machine 100 transmits gaming-ball number information generated upon the number of consumed-gaming-balls that are equivalent to a difference between the number of the gaming-balls used for the play and the number of payout-gaming balls that are paid out upon executing the play, to the game-medium renting machine 200. In particular, the gaming machine 100 counts the number of gaming-balls ejected onto a gaming table, while counting the number of gaming-balls paid out upon winning of the gaming-ball succeeded to fit in a winning opening (such as, a regular winning hole or a special winning hole). Further, the gaming machine 100 counts the number of consumed-gaming-balls based on the number of counted gaming-balls, while transmitting consumed-gaming-ball information, related to the number of consumed-gaming-balls, at predetermined timings (for instance every three minutes). In step 57, the game-medium renting machine 200 receives consumed-gaming-ball information.

[0090] In step 58, the game-medium renting machine 200 discriminates whether the supplemental switch 220 is turned on (i.e., whether the supplemental function is activated). Also, with the supplemental switch 220 turned on, the game-medium renting machine 200 allows the operation to proceed to step 92 and with the supplemental switch 220 turned off, the operation is routed back to step 50.

[0091] In step 59, the game-medium renting machine 200 discriminates whether the number of consumed-gaming-balls reaches a predetermined number of consumed-gaming-balls. Also, if the number of the consumed-gaming-balls reaches the predetermined number of consumed-gaming-balls, the game-medium renting machine 200 allows the operation to proceed to step 60 and if the number of the consumed-gaming-balls does not reach the predetermined number of consumed-gaming-balls, the operation is routed back to step 50.

[0092] In step 60, if the predetermined operation is executed on the supplemental switch 220, the game-medium renting machine 200 transmits a gaming-ball payout command signal to the gaming machine 100 for paying out a predetermined number of gaming-balls de-

pending on the amount of value subtracted from the prepaid card as the supplemental-value. Also, the game-medium renting machine 200 stops the activation of the supplemental function.

[0093] In step 61, the gaming machine 100 receives the gaming-ball payout command signal from the game-medium renting machine 200. Also, in step 62, the gaming machine 100 pays out the predetermined number of gaming balls to the player based on the received payout gaming-ball payout command signal.

[0094] Moreover, while with the second embodiment, the gaming machine 100 has been described as including the pachinko gaming machine, the present invention is not limited such an application and may have an application to a slot machine.

[0095] As set forth above, according to the present invention, even if the gaming machine does not have a function to save the player, a game-medium renting machine can be provided which reduces the loss of the player occurring by the plays on the gaming machine.

[0096] The entire content of a Japanese Application No. P2004-033997 with a filing date of Feburary 10, 2004 is herein incorporated by reference.

[0097] Although the invention has been described above by reference to certain embodiments of the present invention, the invention is not limited to the embodiments described above and will occur to those skilled in the art, in light of the teachings. The scope of the invention is defined with reference to the following claims.

Claims

1. A game-medium renting machine comprising:

a reading means (230) for reading out a value;
game-medium renting means (240) for renting game-medium, for use in a gaming machine (100), depending on a value subtracted from the value read out by the reader;
subtracting means (250) for subtracting a first value from the value read out by the reader based on a predetermined operation executed by a player without causing the game-medium to be rented by the game-medium renting means; and
providing means (240, 250) for providing the player with a predetermined value when the first value is subtracted by the subtracting means and a predetermined condition is established.

2. A game-medium renting machine according to claim 1, wherein

the predetermined value provided to the player includes a second value that is added to the value read out by the reading means.

3. A game-medium renting machine according to claim 1, wherein

the predetermined value, provided to the player, includes a predetermined amount of game-medium.

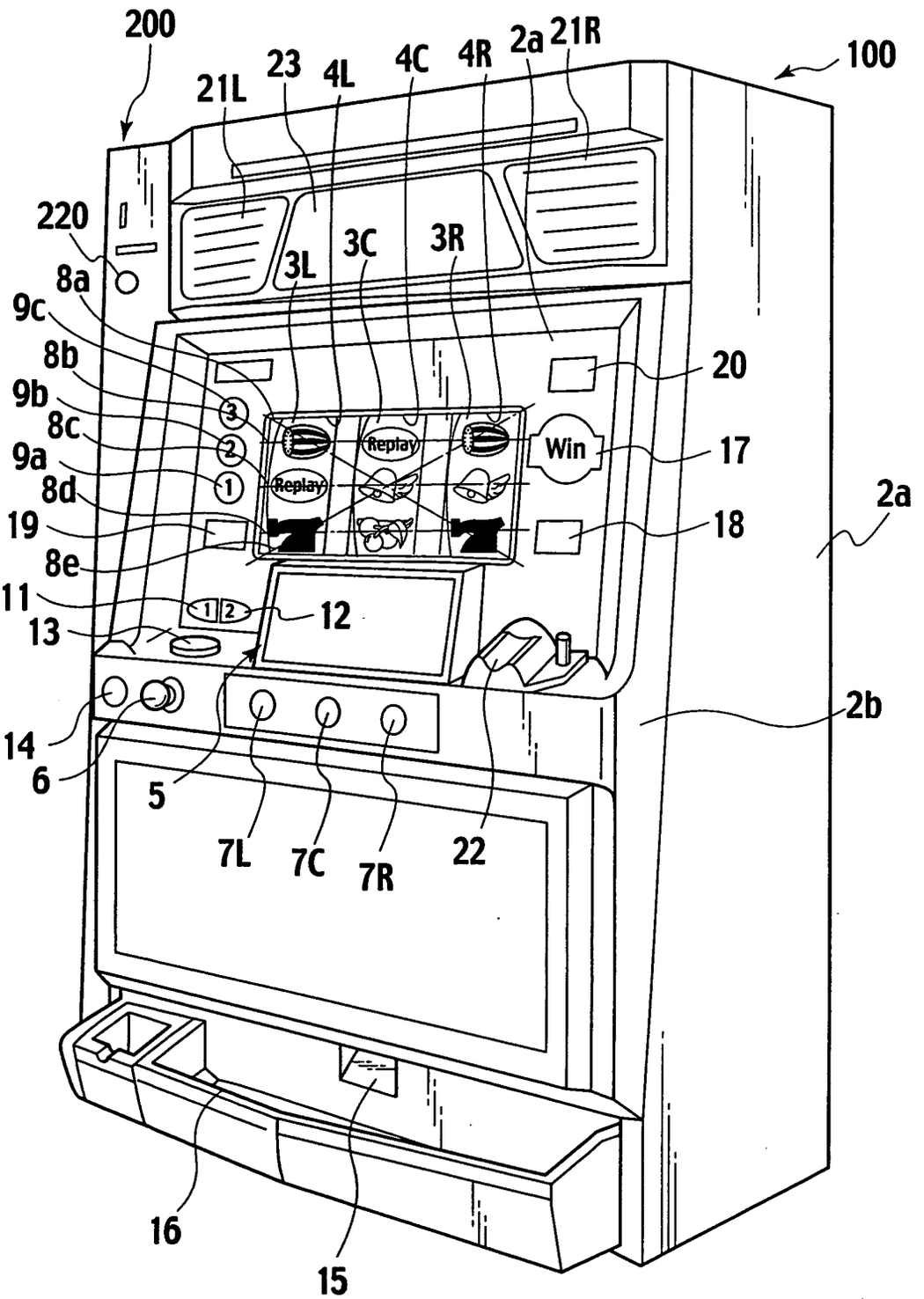
4. A game-medium renting machine according to any one of claims 1 to 3, wherein

the predetermined value, provided to the player, is determined depending on the first value subtracted by the subtracting means.

5. A game-medium renting machine according to any one of claims 1 to 4, wherein

the gaming machine determines whether the predetermined condition is established, and the providing means provides the player with the predetermined value.

FIG.1


200
21L
23
4L
4C
4R
2a
21R
100
220
8a
9c
8b
9b
8c
9a
8d
19
8e
11
13
14
6
5
7L
7C
7R
22
16
15
3L
3C
3R
20
17
18
12
2a
2b
Replay
Replay
Win

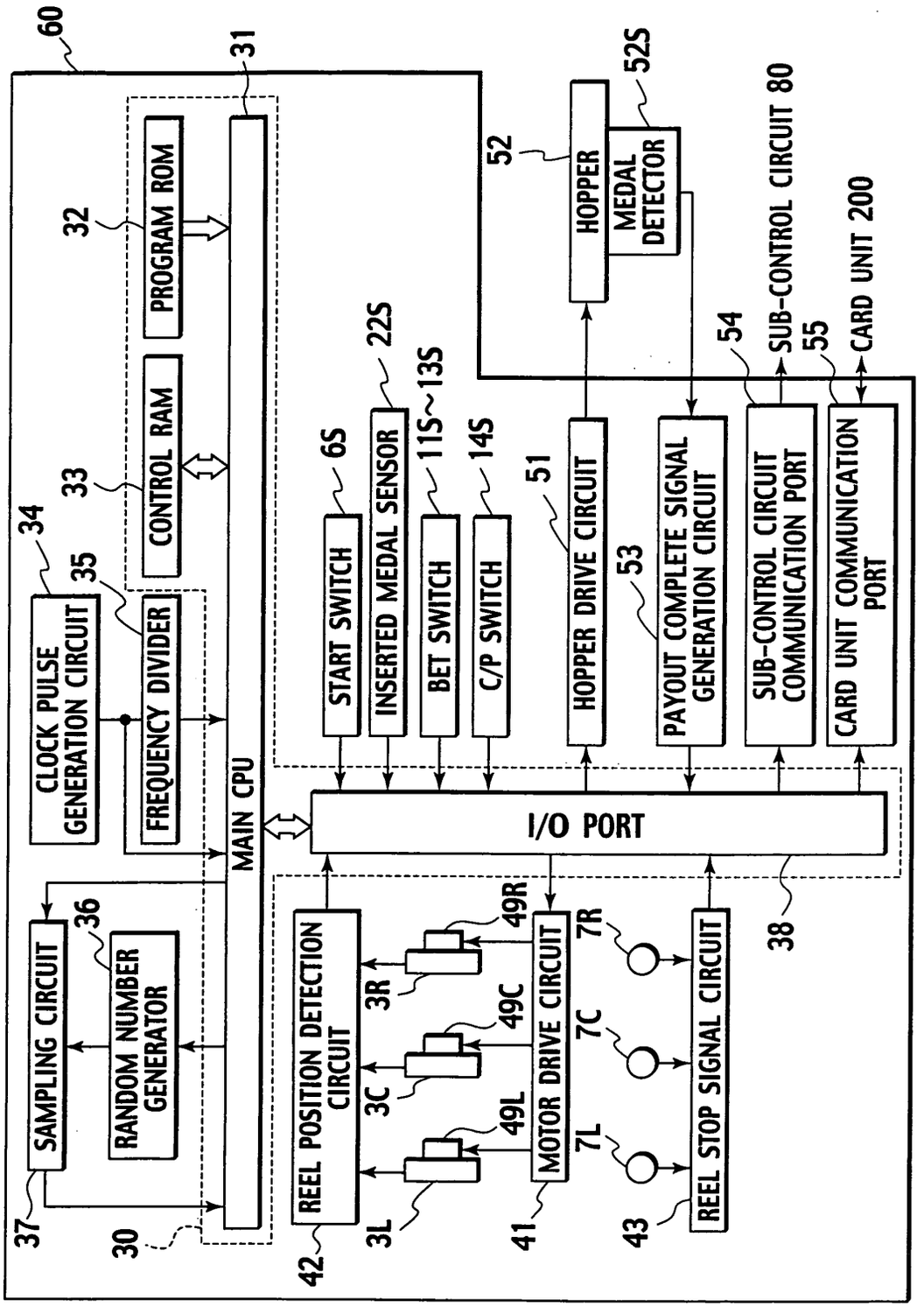

60
31
32
PROGRAM ROM
33
CONTROL RAM
34
CLOCK PULSE GENERATION CIRCUIT
35
FREQUENCY DIVIDER
MAIN CPU
52
HOPPER
52S
MEDAL DETECTOR
SUB-CONTROL CIRCUIT 80
54
55
CARD UNIT 200
22S
11S~13S
14S
6S
START SWITCH
INSERTED MEDAL SENSOR
BET SWITCH
C/P SWITCH
51
HOPPER DRIVE CIRCUIT
53
PAYOUT COMPLETE SIGNAL GENERATION CIRCUIT
SUB-CONTROL CIRCUIT COMMUNICATION PORT
CARD UNIT COMMUNICATION PORT
I/O PORT
38
SAMPLING CIRCUIT
36
RANDOM NUMBER GENERATOR
37
30
REEL POSITION DETECTION CIRCUIT
42
3R
3C
3L
49R
49C
49L
MOTOR DRIVE CIRCUIT
41
7R
7C
7L
REEL STOP SIGNAL CIRCUIT
43

FIG.2

FIG.3

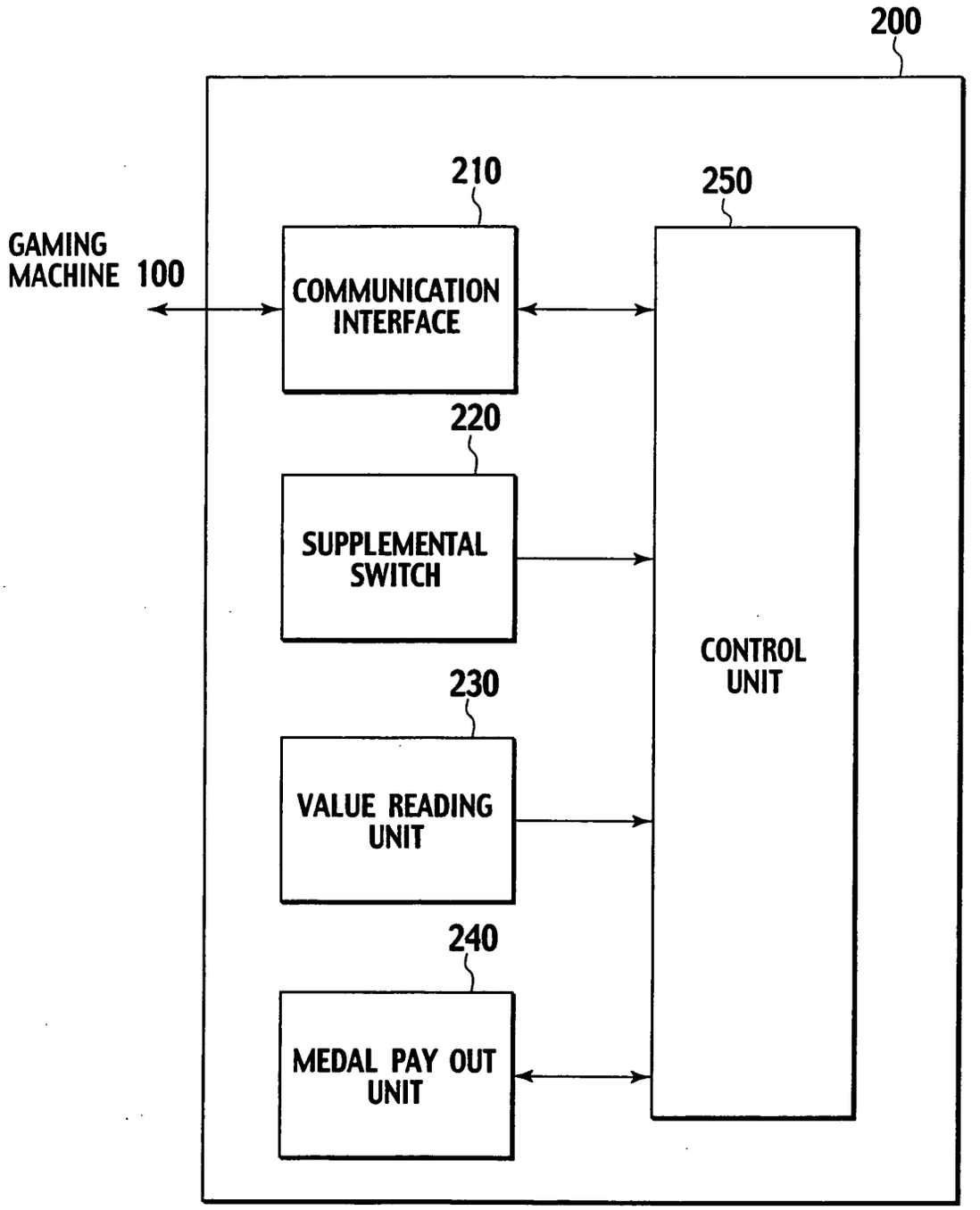

200
210
250
GAMING MACHINE 100
COMMUNICATION INTERFACE
220
SUPPLEMENTAL SWITCH
CONTROL UNIT
230
VALUE READING UNIT
240
MEDAL PAY OUT UNIT

FIG.4

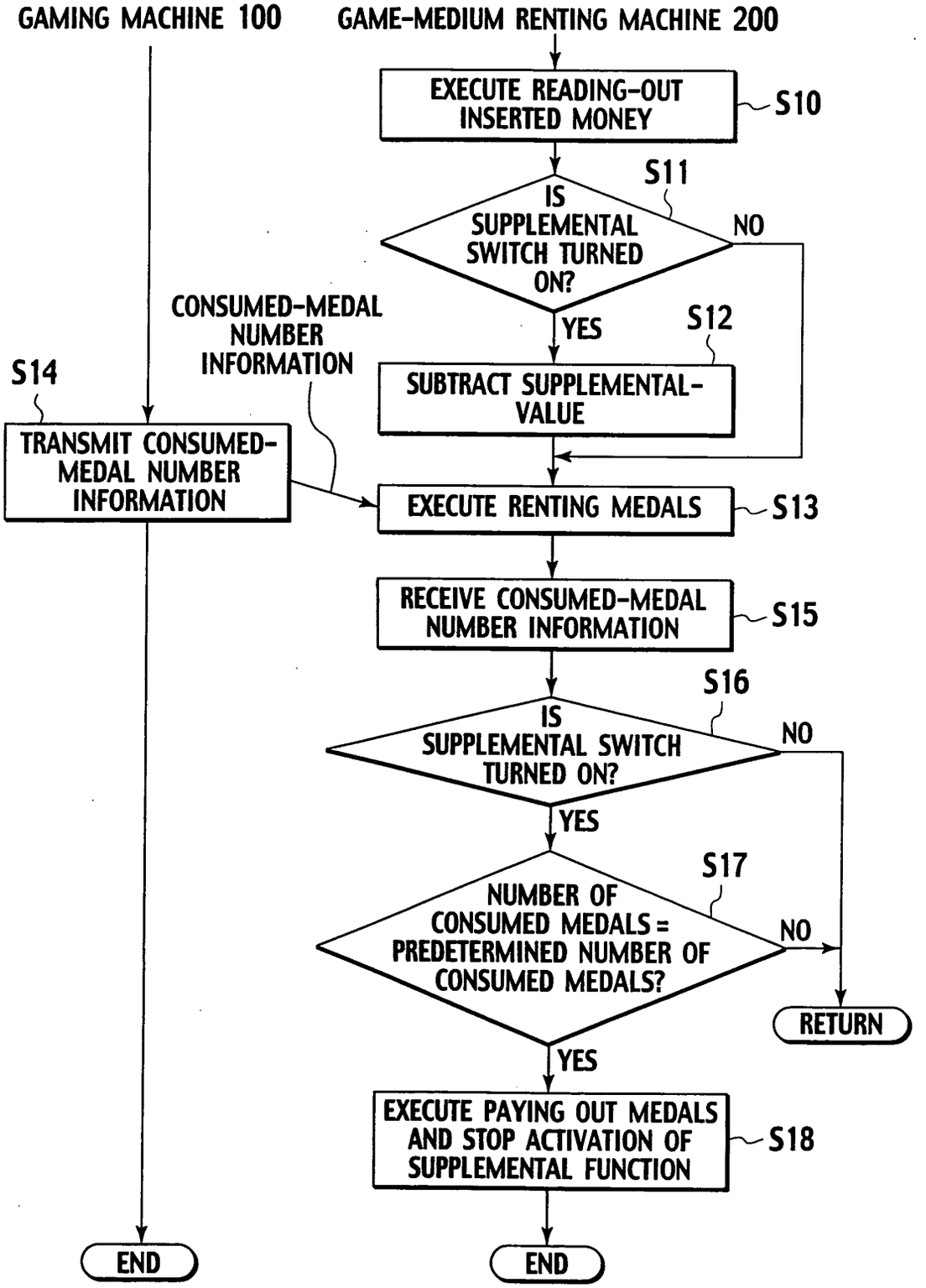

GAMING MACHINE 100
GAME-MEDIUM RENTING MACHINE 200
EXECUTE READING-OUT INSERTED MONEY
S10
S11
IS SUPPLEMENTAL SWITCH TURNED ON?
NO
YES
S12
SUBTRACT SUPPLEMENTAL-VALUE
CONSUMED-MEDAL NUMBER INFORMATION
S14
TRANSMIT CONSUMED-MEDAL NUMBER INFORMATION
EXECUTE RENTING MEDALS
S13
RECEIVE CONSUMED-MEDAL NUMBER INFORMATION
S15
S16
IS SUPPLEMENTAL SWITCH TURNED ON?
NO
YES
S17
NUMBER OF CONSUMED MEDALS = PREDETERMINED NUMBER OF CONSUMED MEDALS?
NO
RETURN
YES
EXECUTE PAYING OUT MEDALS AND STOP ACTIVATION OF SUPPLEMENTAL FUNCTION
S18
END
END

FIG.5

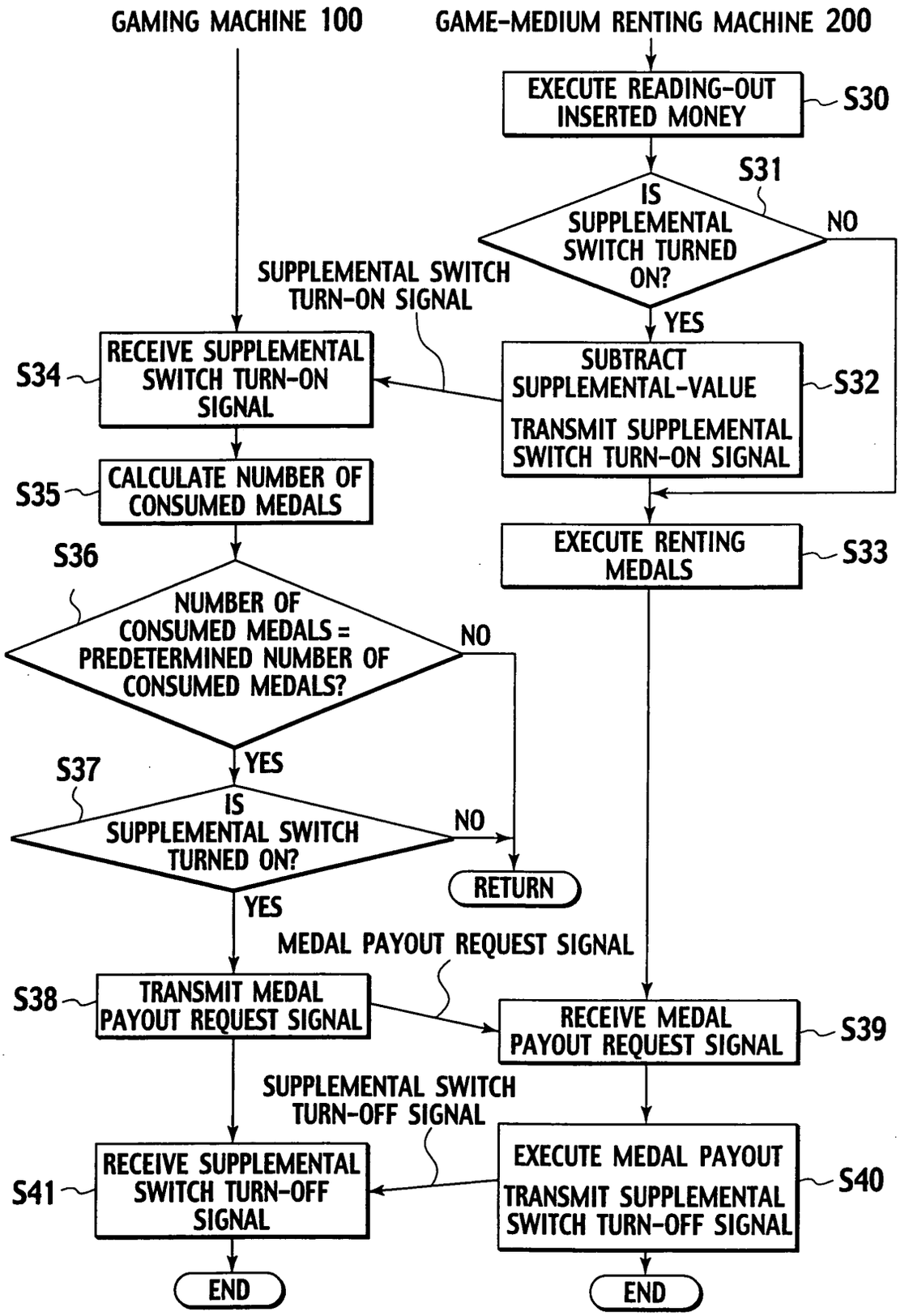
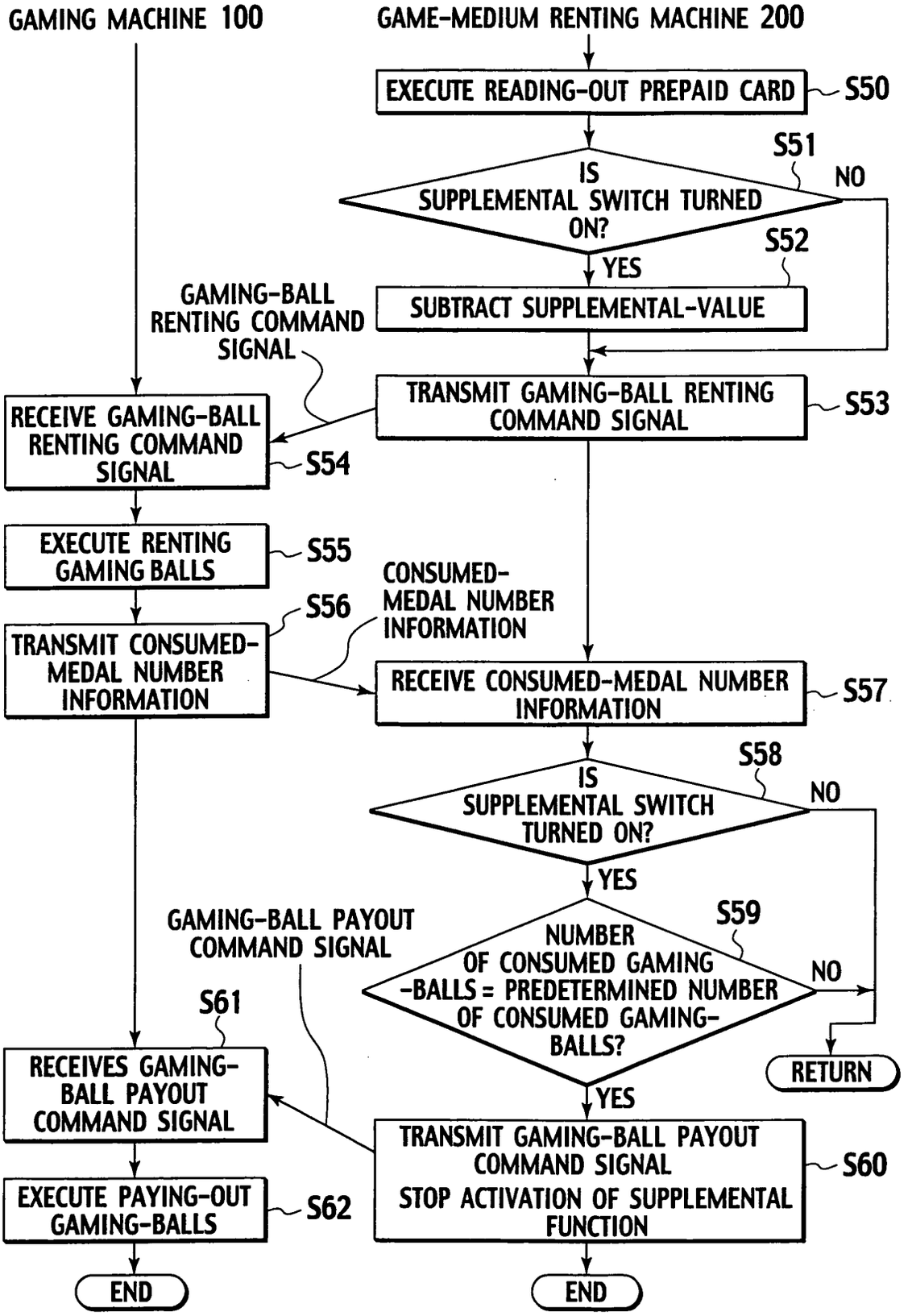

GAMING MACHINE 100
GAME-MEDIUM RENTING MACHINE 200
EXECUTE READING-OUT INSERTED MONEY
S30
S31
IS SUPPLEMENTAL SWITCH TURNED ON?
NO
YES
SUPPLEMENTAL SWITCH TURN-ON SIGNAL
RECEIVE SUPPLEMENTAL SWITCH TURN-ON SIGNAL
S34
SUBTRACT SUPPLEMENTAL-VALUE
TRANSMIT SUPPLEMENTAL SWITCH TURN-ON SIGNAL
S32
CALCULATE NUMBER OF CONSUMED MEDALS
S35
EXECUTE RENTING MEDALS
S33
S36
NUMBER OF CONSUMED MEDALS = PREDETERMINED NUMBER OF CONSUMED MEDALS?
NO
YES
S37
IS SUPPLEMENTAL SWITCH TURNED ON?
NO
RETURN
YES
MEDAL PAYOUT REQUEST SIGNAL
S38
TRANSMIT MEDAL PAYOUT REQUEST SIGNAL
RECEIVE MEDAL PAYOUT REQUEST SIGNAL
S39
SUPPLEMENTAL SWITCH TURN-OFF SIGNAL
EXECUTE MEDAL PAYOUT
TRANSMIT SUPPLEMENTAL SWITCH TURN-OFF SIGNAL
S40
S41
RECEIVE SUPPLEMENTAL SWITCH TURN-OFF SIGNAL
END
END

FIG.6


GAMING MACHINE 100
GAME-MEDIUM RENTING MACHINE 200
EXECUTE READING-OUT PREPAID CARD
S50
S51
IS SUPPLEMENTAL SWITCH TURNED ON?
NO
YES
S52
SUBTRACT SUPPLEMENTAL-VALUE
GAMING-BALL RENTING COMMAND SIGNAL
TRANSMIT GAMING-BALL RENTING COMMAND SIGNAL
S53
RECEIVE GAMING-BALL RENTING COMMAND SIGNAL
S54
EXECUTE RENTING GAMING BALLS
S55
CONSUMED-MEDAL NUMBER INFORMATION
S56
TRANSMIT CONSUMED-MEDAL NUMBER INFORMATION
RECEIVE CONSUMED-MEDAL NUMBER INFORMATION
S57
S58
IS SUPPLEMENTAL SWITCH TURNED ON?
NO
YES
GAMING-BALL PAYOUT COMMAND SIGNAL
S59
NUMBER OF CONSUMED GAMING -BALLS = PREDETERMINED NUMBER OF CONSUMED GAMING-BALLS?
NO
RETURN
YES
S61
RECEIVES GAMING-BALL PAYOUT COMMAND SIGNAL
TRANSMIT GAMING-BALL PAYOUT COMMAND SIGNAL
STOP ACTIVATION OF SUPPLEMENTAL FUNCTION
S60
EXECUTE PAYING-OUT GAMING-BALLS
S62
END
END