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Haishima

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(54) **CURRENCY HANDLING SYSTEM**

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(73) Assignee: **Universal Entertainment Corporation**, Tokyo (JP)

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CPC ***G06Q 20/381*** (2013.01); ***G06Q 20/085*** (2013.01); ***G07D 11/22*** (2019.01);
(Continued)

(58) **Field of Classification Search**
CPC G06Q 20/381; G06Q 20/085; G07D 11/22; G07D 7/12; G07D 2207/00; G07D 2211/00; G07F 17/3244
See application file for complete search history.

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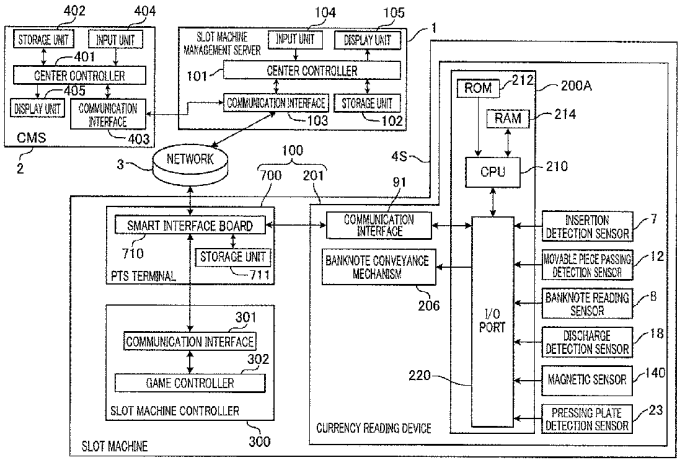
Primary Examiner — Nilesh B Khatri
(74) *Attorney, Agent, or Firm* — Simpson & Simpson, PLLC; S. Peter Konzel

(57) **ABSTRACT**

An object of the present invention is to provide a currency handling system which makes it possible to decrease a risk of dealing with foreign currency at the time of the occurrence of a communication error in a case in which a currency reading device capable of accepting a variety of currencies including a foreign currency is used while the currency handling system is connected to a management server through a communication line. A currency handling system **100** is connected to a casino management system **2** through a network **3**, and includes a currency reading device **201** which is capable of accepting a variety of currencies and a PTS terminal **700**. The PTS terminal **700** causes a process which limits usage of a foreign currency but allows usage of
(Continued)



a local currency in the currency reading device **201** to be performed in a case (offline state) in which an error occurs in communication with the casino management system **2**.

6 Claims, 12 Drawing Sheets

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G07F 17/32 (2006.01)

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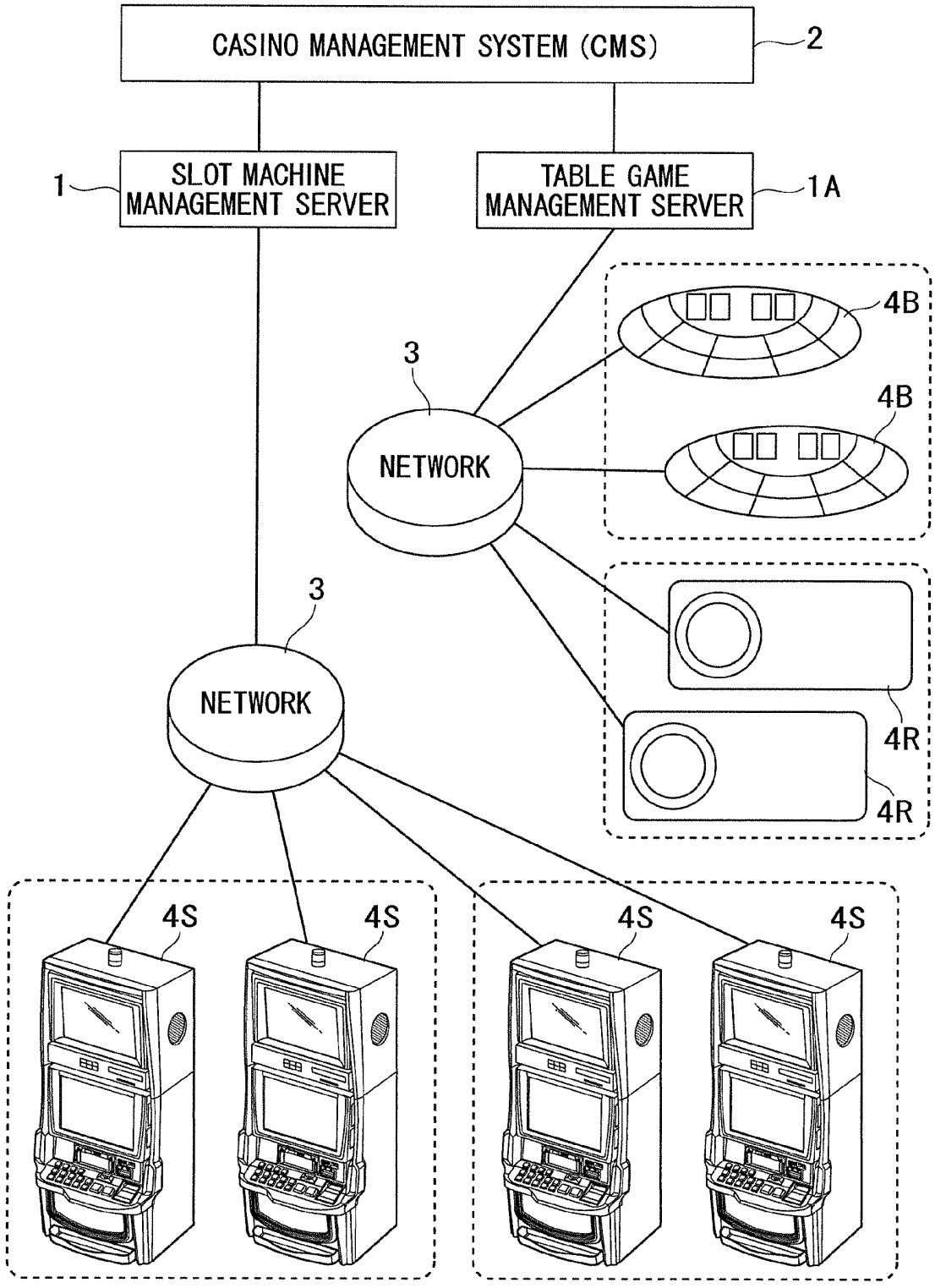
FIG.1


CASINO MANAGEMENT SYSTEM (CMS)
2
1
SLOT MACHINE MANAGEMENT SERVER
TABLE GAME MANAGEMENT SERVER
1A
3
NETWORK
4B
4B
3
NETWORK
4R
4R
4S
4S
4S
4S

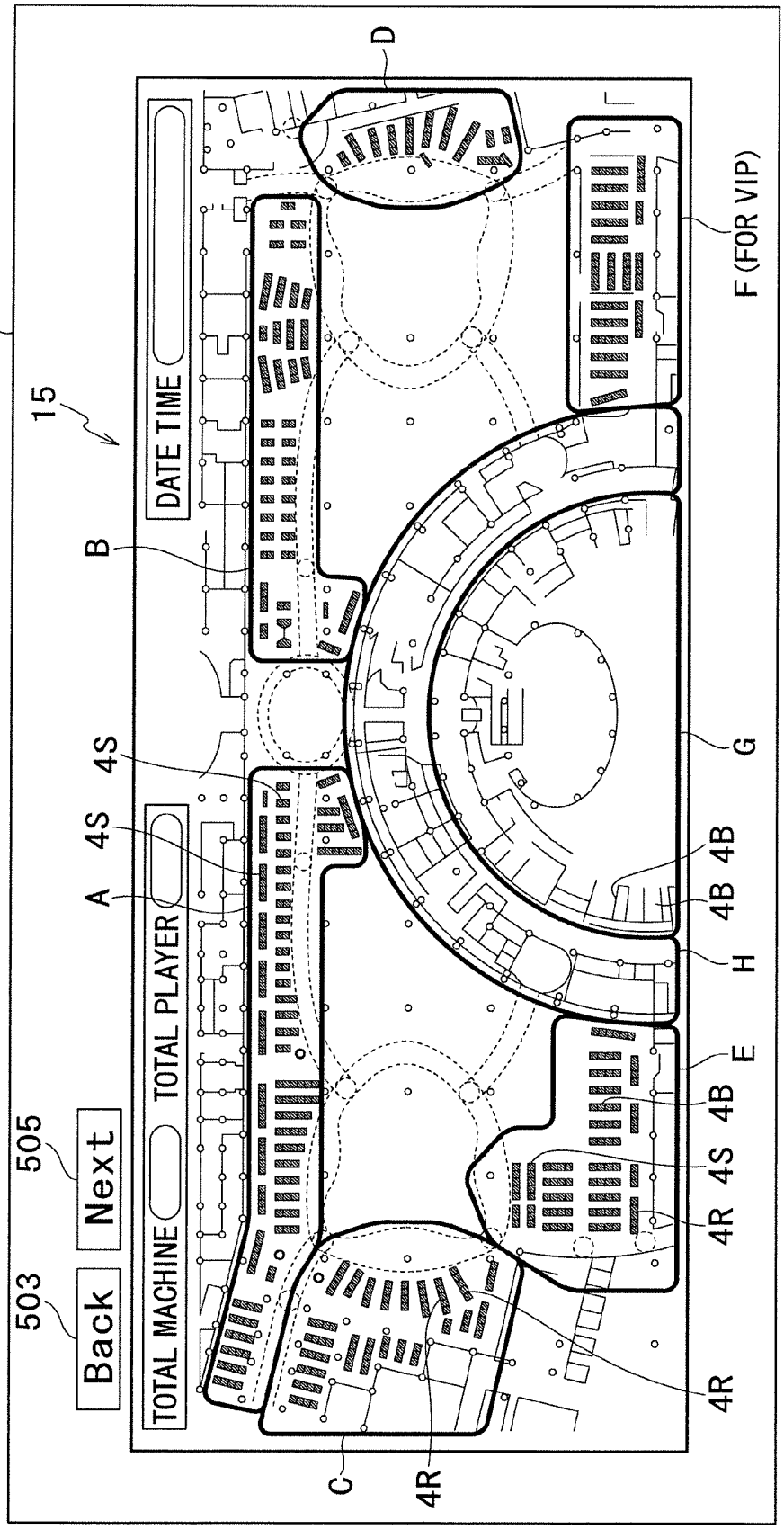
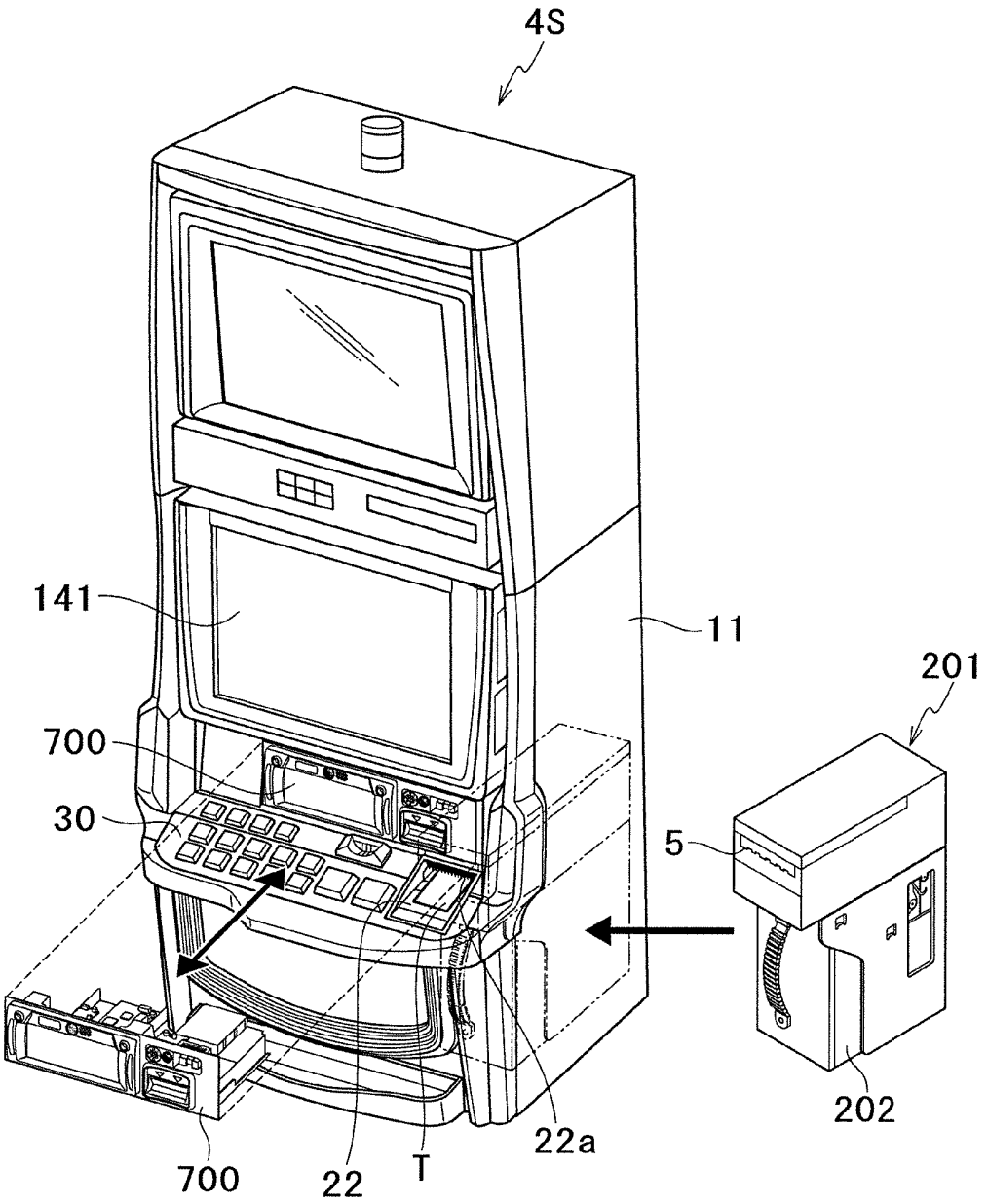

105
15
DATE TIME
TOTAL PLAYER
TOTAL MACHINE
Next
Back
505
503
A
B
C
D
4S
4R
4B
E
F (FOR VIP)
G
H

FIG.2

FIG.3



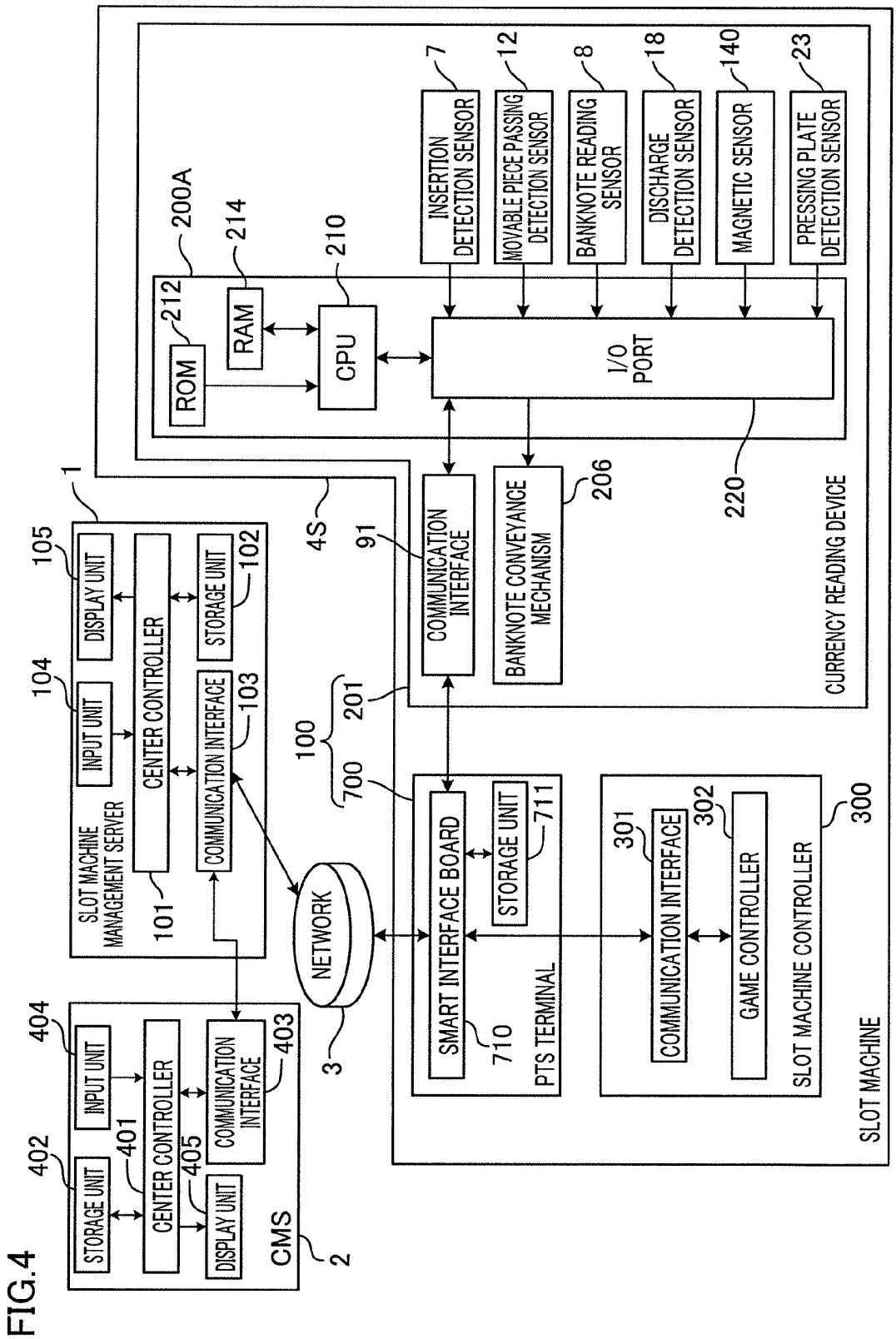

SLOT MACHINE
CURRENCY READING DEVICE
200A
ROM
212
RAM
214
CPU
210
I/O PORT
220
INSERTION DETECTION SENSOR
7
MOVABLE PIECE PASSING DETECTION SENSOR
12
BANKNOTE READING SENSOR
8
DISCHARGE DETECTION SENSOR
18
MAGNETIC SENSOR
140
PRESSING PLATE DETECTION SENSOR
23
4S
91
COMMUNICATION INTERFACE
BANKNOTE CONVEYANCE MECHANISM
206
201
100
700
SMART INTERFACE BOARD
710
STORAGE UNIT
711
PTS TERMINAL
301
COMMUNICATION INTERFACE
302
GAME CONTROLLER
SLOT MACHINE CONTROLLER
300
NETWORK
3
SLOT MACHINE MANAGEMENT SERVER
1
DISPLAY UNIT
105
INPUT UNIT
104
CENTER CONTROLLER
101
STORAGE UNIT
102
COMMUNICATION INTERFACE
103
CMS
2
INPUT UNIT
404
CENTER CONTROLLER
401
COMMUNICATION INTERFACE
403
STORAGE UNIT
402
DISPLAY UNIT
405

FIG.4

FIG.5

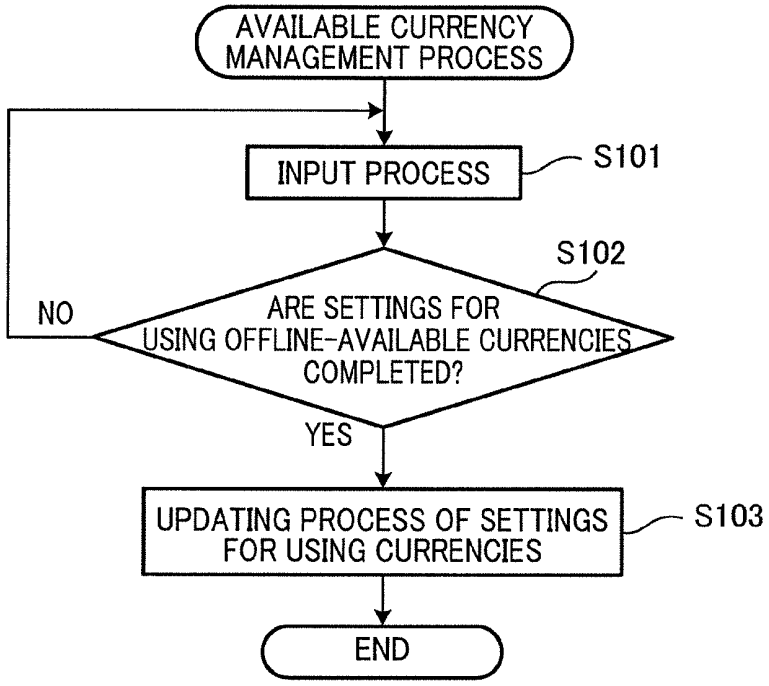

AVAILABLE CURRENCY MANAGEMENT PROCESS
INPUT PROCESS
S101
S102
NO
ARE SETTINGS FOR USING OFFLINE-AVAILABLE CURRENCIES COMPLETED?
YES
UPDATING PROCESS OF SETTINGS FOR USING CURRENCIES
S103
END

FIG.6

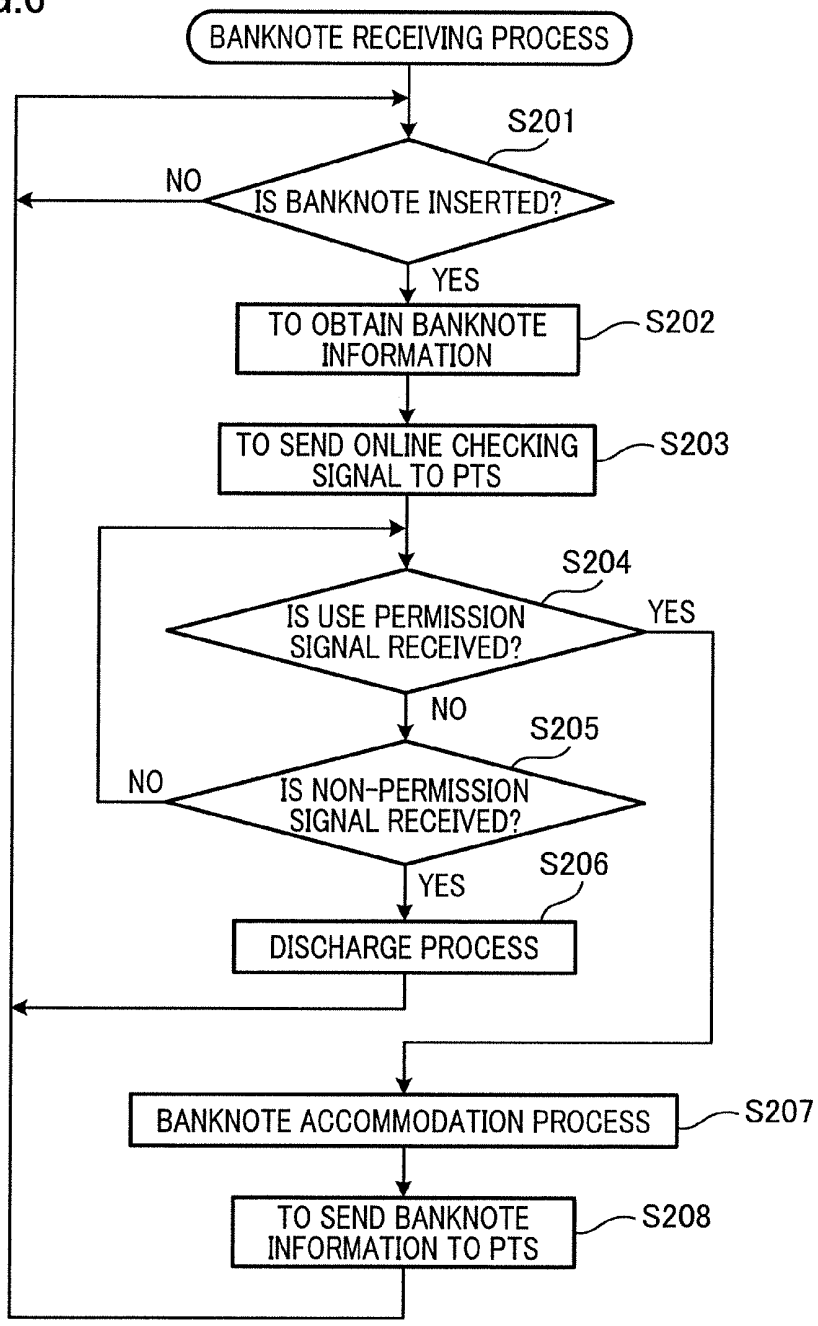

BANKNOTE RECEIVING PROCESS
S201
IS BANKNOTE INSERTED?
NO
YES
TO OBTAIN BANKNOTE INFORMATION
S202
TO SEND ONLINE CHECKING SIGNAL TO PTS
S203
S204
IS USE PERMISSION SIGNAL RECEIVED?
YES
NO
S205
IS NON-PERMISSION SIGNAL RECEIVED?
NO
YES
S206
DISCHARGE PROCESS
BANKNOTE ACCOMMODATION PROCESS
S207
TO SEND BANKNOTE INFORMATION TO PTS
S208

FIG.7

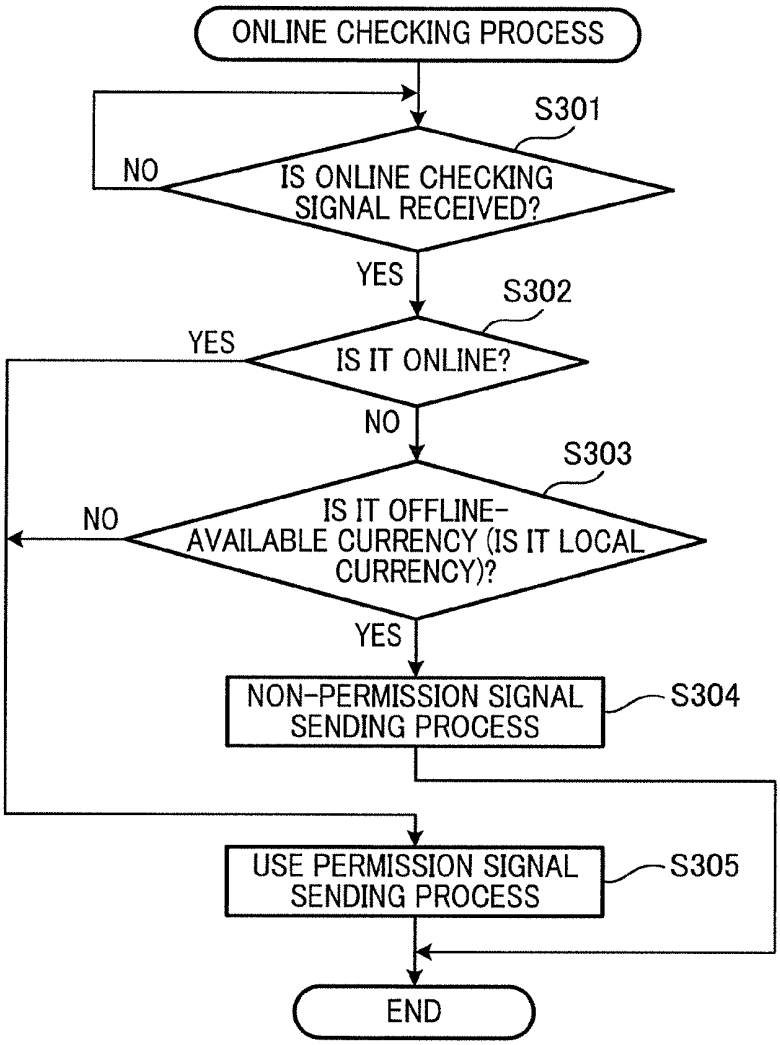

ONLINE CHECKING PROCESS
S301
IS ONLINE CHECKING SIGNAL RECEIVED?
NO
YES
S302
IS IT ONLINE?
YES
NO
S303
IS IT OFFLINE-AVAILABLE CURRENCY (IS IT LOCAL CURRENCY)?
NO
YES
NON-PERMISSION SIGNAL SENDING PROCESS
S304
USE PERMISSION SIGNAL SENDING PROCESS
S305
END

FIG.8

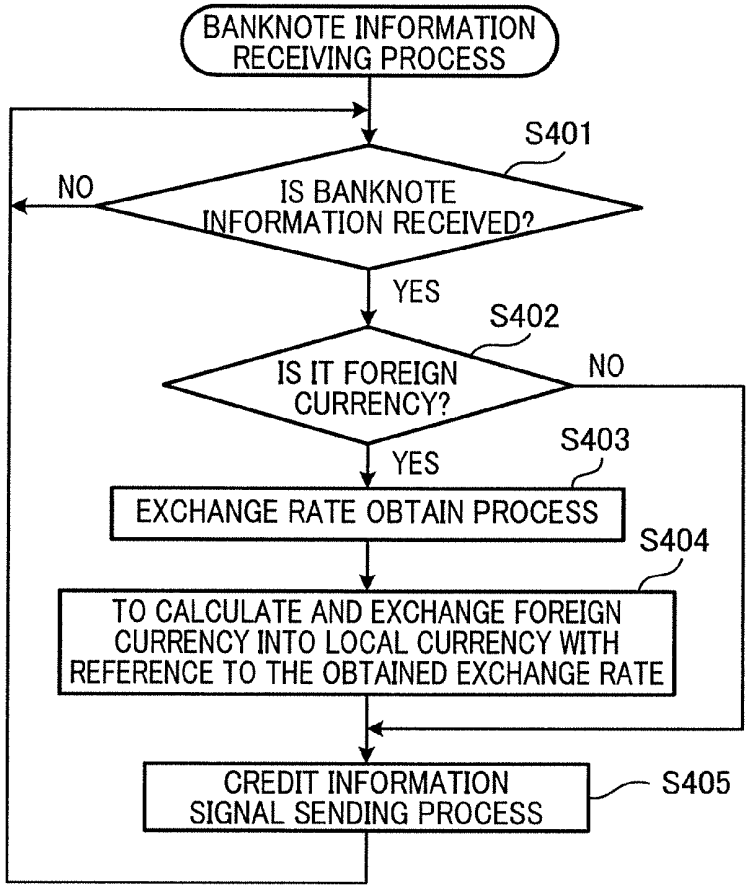

BANKNOTE INFORMATION RECEIVING PROCESS
S401
IS BANKNOTE INFORMATION RECEIVED?
NO
YES
S402
IS IT FOREIGN CURRENCY?
NO
YES
S403
EXCHANGE RATE OBTAIN PROCESS
S404
TO CALCULATE AND EXCHANGE FOREIGN CURRENCY INTO LOCAL CURRENCY WITH REFERENCE TO THE OBTAINED EXCHANGE RATE
CREDIT INFORMATION SIGNAL SENDING PROCESS
S405

FIG.9

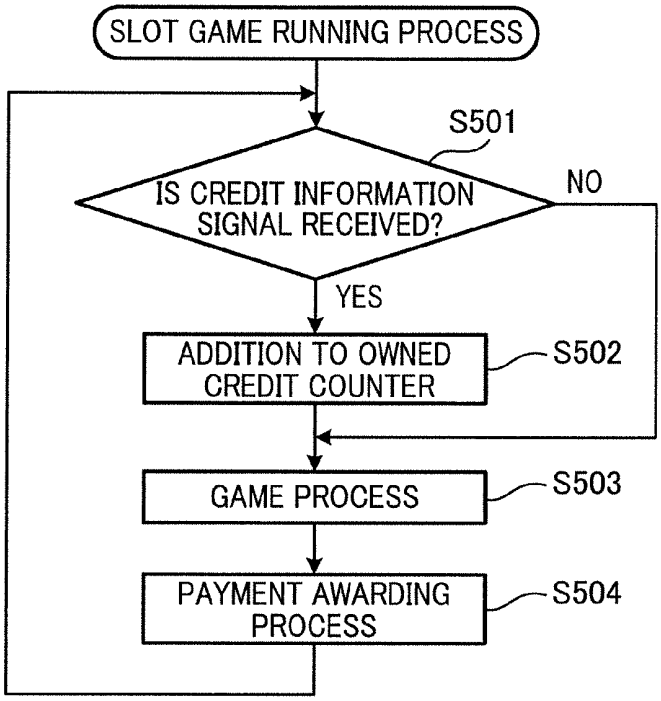
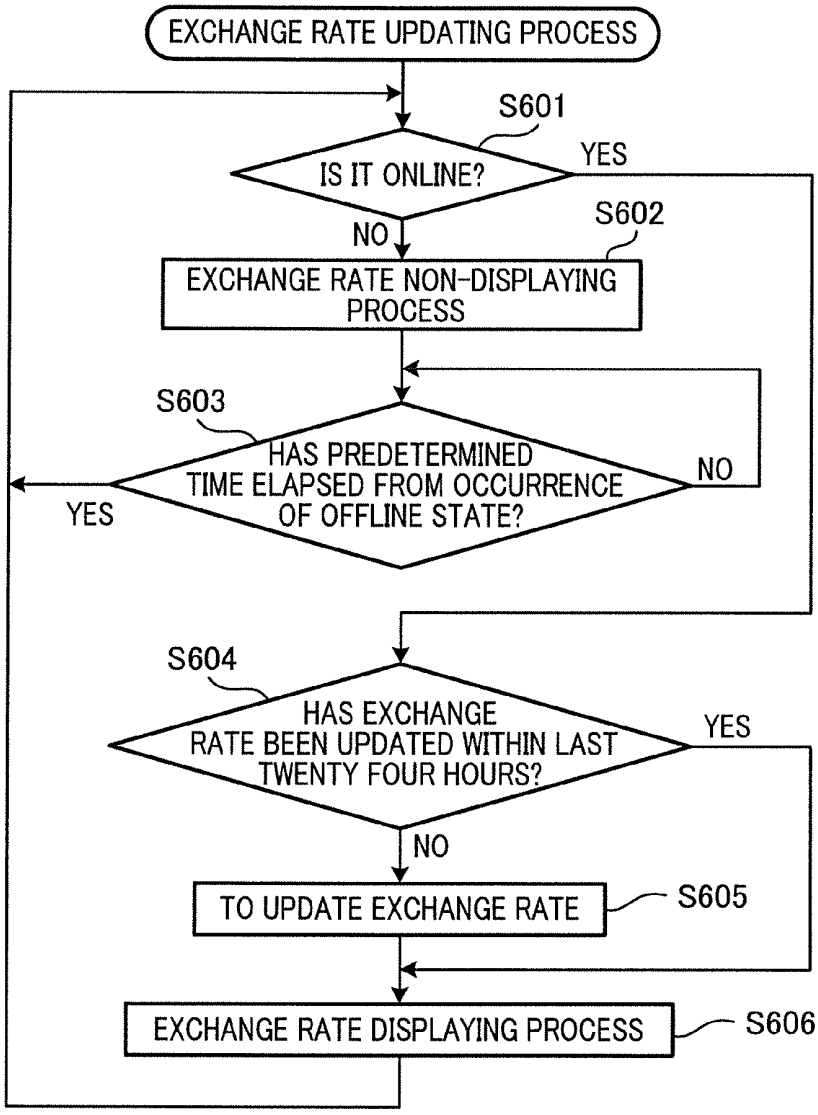

SLOT GAME RUNNING PROCESS
S501
IS CREDIT INFORMATION SIGNAL RECEIVED?
NO
YES
ADDITION TO OWNED CREDIT COUNTER
S502
GAME PROCESS
S503
PAYMENT AWARDING PROCESS
S504

FIG.10


EXCHANGE RATE UPDATING PROCESS
S601
IS IT ONLINE?
YES
NO
S602
EXCHANGE RATE NON-DISPLAYING PROCESS
S603
HAS PREDETERMINED TIME ELAPSED FROM OCCURRENCE OF OFFLINE STATE?
NO
YES
S604
HAS EXCHANGE RATE BEEN UPDATED WITHIN LAST TWENTY FOUR HOURS?
YES
NO
TO UPDATE EXCHANGE RATE
S605
EXCHANGE RATE DISPLAYING PROCESS
S606

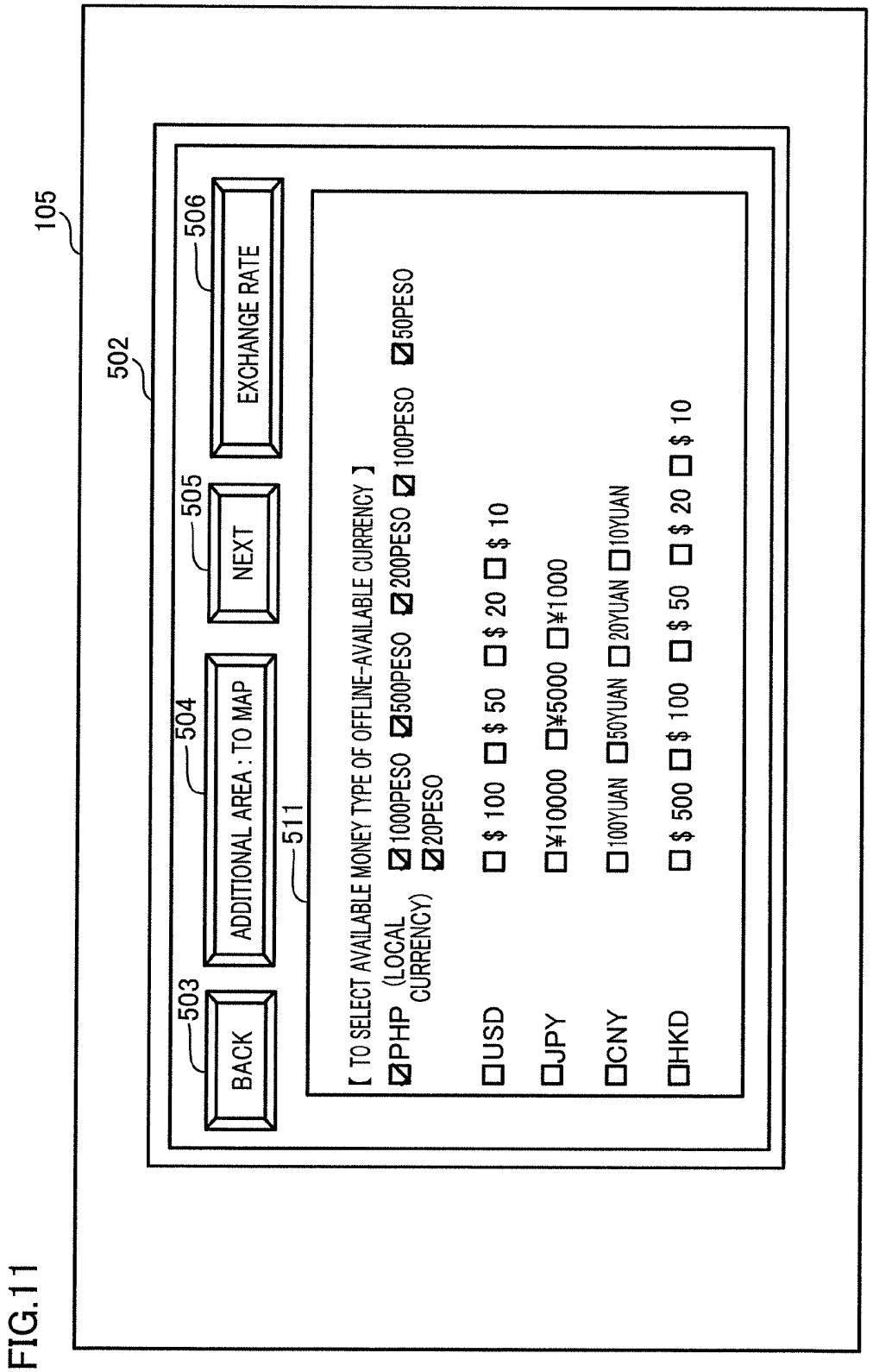

105
502
503
BACK
504
ADDITIONAL AREA : TO MAP
505
NEXT
506
EXCHANGE RATE
511
【 TO SELECT AVAILABLE MONEY TYPE OF OFFLINE-AVAILABLE CURRENCY 】
☑PHP (LOCAL CURRENCY) ☑1000PESO ☑500PESO ☑200PESO ☑100PESO ☑50PESO ☑20PESO
☐USD ☐ $ 100 ☐ $ 50 ☐ $ 20 ☐ $ 10
☐JPY ☐¥10000 ☐¥5000 ☐¥1000
☐CNY ☐100YUAN ☐50YUAN ☐20YUAN ☐10YUAN
☐HKD ☐ $ 500 ☐ $ 100 ☐ $ 50 ☐ $ 20 ☐ $ 10

FIG.11

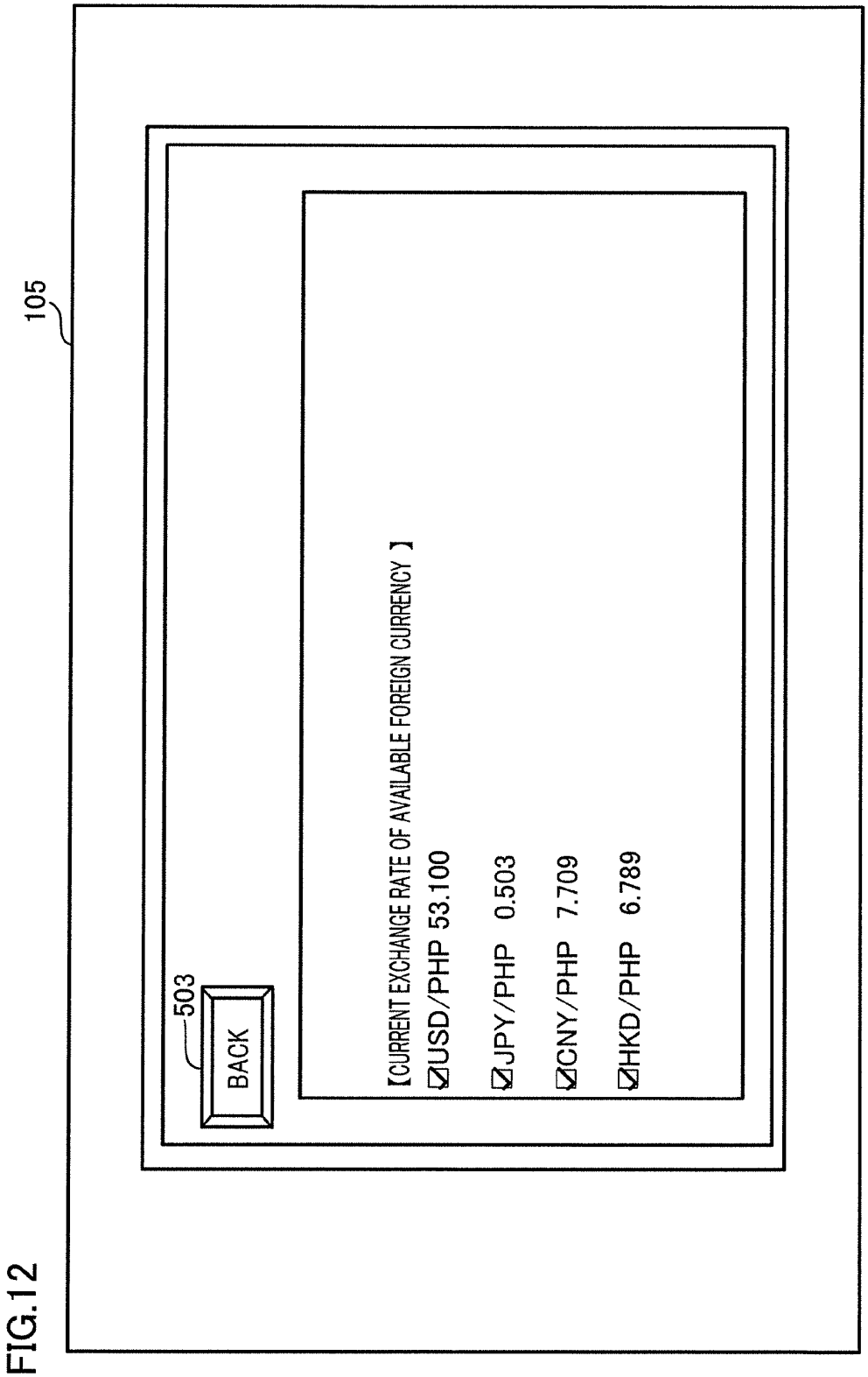

105
503
BACK
【CURRENT EXCHANGE RATE OF AVAILABLE FOREIGN CURRENCY 】
☑USD/PHP 53.100
☑JPY/PHP 0.503
☑CNY/PHP 7.709
☑HKD/PHP 6.789

FIG.12

CURRENCY HANDLING SYSTEM

TECHNICAL FIELD

The present invention relates to a currency handling system.

BACKGROUND

A known currency reading device (Bill Validator) provided at a gaming machine receives only currency of the country or region in which the gaming machine is provided, and is able to distinguish the face value (see Patent Literatures 1 to 2).

However, with increase of travelers and sojourners from foreign countries, gaming machines are increasingly required to accept foreign currencies. As such, gaming machines are required to accept foreign currencies.

CITATION LIST

Patent Literatures

[PTL 1] Japanese Unexamined Patent Publication No. 2013-127805

[PTL 2] Japanese Unexamined Patent Publication No. 2012-141897

SUMMARY OF INVENTION

Technical Problem

In gaming machines accepting a variety of foreign currencies, it is sometimes required to replace (exchange and calculate) a foreign currency into a local currency (currency which is used at a country or region; at the country or region, gaming machines are provided) in order to perform payout calculation or in order to calculate the sum (total sales) of the used monetary amount. When each of foreign currencies is replaced into a local currency, replacement is performed based on an exchange rate corresponding to each foreign currency.

The exchange rate corresponding to each foreign currency is updated at a variety of timing. When the gaming machines accept a variety of foreign currencies, an exchange rate which moves in real time can be adopted.

In such cases, when a communication error (offline state) occurs between a server and gaming machines by any reason, a current accurate exchange rate is ungraspable in the gaming machines including currency reading devices in each of which a variety of foreign currencies are available, with the result that a disadvantage can be given to a player or an owner of the gaming machines due to a variation of the exchange rate in the offline state. The server manages the exchange rate.

An object of the present invention is to provide a currency handling system which makes it possible to solve the above-described problems.

Solution to Problem

The present invention is a currency handling system connected to a management server through a communication line, including:

a currency reading device which is capable of accepting a variety of currencies; and

a controller which is programmed to perform a predetermined process, and

in a case in which an error occurs in communication with the management server, the controller is programmed to perform a process which limits usage of a foreign currency but allows usage of a local currency in the currency reading device.

By the above-described structure, when a communication error occurs between the currency handling system and the management server, a process which limits usage of a foreign currency but allows usage of a local currency is performed in the currency reading device. Because of this, when the offline state occurs so that the management server is unable to manage and monitor a foreign currency, the usage of a local currency is not limited while the usage of a foreign currency is limited. As a result, a risk of dealing with a foreign currency at the time of the occurrence of a communication error is decreasable.

The present invention is the currency handling system described above, further including:

a storage unit which stores an exchange rate; and

a display device which displays the exchange rate, and

the controller is programmed to perform processes of:

(a) updating the exchange rate in the storage unit in a case in which communication related to information of the exchange rate is performed with the management server;

(b) referring to the exchange rate in the storage unit and displaying the exchange rate on the display unit; and

(c) limiting display of the exchange rate on the display unit in a case in which an error occurs in communication with the management server.

By the above-described structure, when information of the exchange rate is not acquirable because of a communication error between the currency handling system and the management server, a process which limits the display of the exchange rate on the display unit is performed. Because of this, when the offline state occurs so that a foreign currency is unable to be managed and monitored in the management server, it is possible to inform that the usage of a foreign currency is limited.

The present invention is the currency handling system described above, wherein, in a case in which an error occurs in communication with the management server and then the error is recovered, the controller communicates with the management server in regard to information of the exchange rate and causes the management server to execute a process of updating the exchange rate in the storage unit.

By the above-described structure, when a communication error occurs between the currency handling system and the management server and then the error is recovered, the exchange rate in the storage unit is updated. Because of this, when the offline state is recovered, the exchange rate necessary for using a foreign currency is immediately updated. As a result, it is possible to immediately inform that the limit of the usage of a foreign currency is removed. In the offline state, the exchange rate of a foreign currency is unable to be managed and monitored in the management server.

The present invention is the currency handling system described above, wherein, the controller is programmed to perform a process of:

limiting usage of a predetermined money type of a predetermined foreign currency in the currency reading device in a case in which an error occurs in communication with the management server.

By the above-described structure, in a case in which a communication error occurs between the currency handling

system and the management server, a process which limits usage of a predetermined money type of a predetermined foreign currency but allows usage of a local currency is performed in the currency reading device. Because of this, when the offline state occurs, the usage of a foreign currency except the predetermined money type of the predetermined foreign currency and the usage of a local currency are not limited while the usage of the predetermined money type of the predetermined foreign currency is limited. As a result, a risk of dealing with a foreign currency at the time of the occurrence of the communication error is decreasable. In the offline state, a foreign currency is unable to be managed and monitored in the management server.

BRIEF DESCRIPTION OF DRAWINGS

FIG. **1** illustrates a network environment of a casino system.

FIG. **2** illustrates areas A to H which are associated with gaming machines provided at a gaming facility.

FIG. **3** illustrates a currency reading device and a PTS terminal which are provided at a slot machine.

FIG. **4** is a block diagram of the casino management system including a currency handling system.

FIG. **5** is a flowchart of an available currency management process.

FIG. **6** is a flowchart of a banknote receiving process.

FIG. **7** is a flowchart of an online checking process.

FIG. **8** is a flowchart of a banknote information receiving process.

FIG. **9** is a flowchart of a slot game running process.

FIG. **10** is a flowchart of an exchange rate updating process.

FIG. **11** is an explanatory diagram of an offline-available currency and money type selection screen.

FIG. **12** is an explanatory diagram of an exchange rate screen.

PREFERRED EMBODIMENT OF INVENTION

Embodiment

A casino system will be described with reference to figures. The casino system manages slot machines **4**S each of which includes a currency handling system **100** (currency reading device **201** and PTS terminal **700**) of the present embodiment.

(Casino System)

As shown in FIG. **1**, a slot machine management server **1** is connected with slot machines **4**S (gaming machines **4**) through a network **3** (communication lines). In other words, the slot machine management server **1** mainly plays a role of managing the slot machines **4**S. The slot machine management server **1** itself is connected with a casino management system **2** (CMS) which manages operation of the entire casino. With the casino management system **2**, a table game management server **1**A is also connected. The table game management server **1**A plays a role of managing table games (total sales, etc.) such as baccarat game tables **4**B, roulette game machines **4**R, and poker game machines **4**P, which correspond to other gaming machines **4**. In this regard, the casino management system **2** itself may be connected with the outside through communication lines (the Internet, etc.).

The gaming machine **4** includes a device which is able to perform or support a game (e.g., support of progress of a game and support of calculation of a payout). In the game, a payout may be awarded based on a betted gaming value and a game result. The gaming machine **4** further includes a device which is embedded in or provided to be adjacent to a playing table of baccarat or porker, which is a game controlled by a human player. In this regard, the gaming value is electrically valuable information in which a currency amount is exchanged into electronic money, etc. The gaming value in the disclosure is not limited to this, and for example a gaming medium such as a medal, a token, a coin, or a ticket or the like may be used. The ticket is not particularly limited, and for example, a barcoded ticket may be used. The barcoded ticket has data of, e.g., a credit amount in the form of bar code. Alternatively, the gaming value may be a game point which does not include valuable information.

As shown in FIG. **2**, the gaming machines **4** such as the slot machines **4**S, baccarat game tables **4**B, roulette game machines **4**R, and poker game machines **4**P are provided at a gaming facility **15**. In addition to that, the slot machines **4**S managed by the slot machine management server **1** are associated with any of areas A to H in the gaming facility **15**.

For example, the area A is provided with slot machines **4**S which are of a type Y, in which the minimum bet (the minimum bet amount to start a game) is set to be lower than the minimum bet in the area B. The area B is provided with the slot machines **4**S which are of the type Y, in which the minimum bet is set to be higher than the minimum bet in the area A. The area C is provided with slot machines **4**S which are of a type Z, in which the minimum bet is set to be lower than the minimum bet in the area D. The area D is provided with the slot machines **4**S which are of the type Z, in which the minimum bet is set to be higher than the minimum bet in the area C. The area E is provided with slot machines **4**S, in which the minimum bet is set to be the highest among the minimum bets among the gaming facility **15**. The area F is provided with slot machines **4**S which are used exclusively for VIP members. The area G is provided with slot machines **4**S which are of a type X, in which the minimum bet is set to be higher than the minimum bet in the area H. The area H is provided with the slot machines **4**S which are of the type X, in which the minimum bet is set to be lower than the minimum bet in the area G.

In this regard, it is possible to arrange areas of each gaming facility at will, e.g., which slot machine **4**S is associated with each area and for what reason each area is provided. For example, areas may correspond to respective types of games or manufacturers, areas may be classified based on values of minimum bets or based on available currencies, or one area may be associated with one slot machine **4**S.

(Structure of Slot Machine Management Server **1**)

As shown in FIG. **4**, the slot machine management server **1** is a computer. The slot machine management server **1** includes a center controller **101**, a storage unit **102** which stores information, etc., a communication interface **103** for achieving sending and receiving of a signal (command) to and from the outside, an input unit **104** (touch panel, keyboard, and mouse, etc.) which makes it possible to input information, etc., and a display unit **105** which is able to display characters and images, etc. In this regard, information is sent from the slot machine **4**S (PTS terminal **700**, etc.) or the casino management system **2**, or is input from the input unit. Although not illustrated, the center controller **101** includes a CPU, a ROM, a RAM, and an I/O port to which members such as the storage unit **102**, the communication interface **103** (transmitter), the input unit **104**, and the display unit **105** are connected.

(Structure of Casino Management System **2**)

As shown in FIG. **4**, the casino management system **2** is a computer which manages the operation of the entire casino (including management of the exchange rate, etc.). Similarly to the slot machine management server **1**, the casino management system **2** includes a center controller **401**, a storage unit **402** which stores information, etc., a communication interface **403** for achieving sending and receiving of a signal (command) to and from the outside, an input unit **404** (touch panel, keyboard, and mouse, etc.) which makes it possible to input information, etc., and a display unit **405** which is able to display characters and images, etc. In this regard, information is sent from the slot machine management server **1** or is input from the input unit.

The center controller **401** of the casino management system **2** plays a role of sending information of the exchange rate which is stored in the storage unit **402** to the currency handling system **100** (PTS terminal **700**) in a case in which a banknote T read by the currency reading device **201** is determined as a foreign currency in the PTS terminal **700**. In this casino management system **2**, the exchange rate referred by the entire casino system is managed. This exchange rate is updated by manual input of a person in charge of the casino management system **2** at a predetermined time (AM 6:00).

(Slot Machine **4**S)

In the present embodiment, the slot machine **4**S will be described as an example of a gaming machine **4** which is provided with the currency handling system **100** (PTS terminal **700** and currency reading device **201**). A device corresponding to the currency handling system **100** is also mounted at each of, e.g., the baccarat game table **4**B, the roulette game machine **4**R, and the poker game machine **4**P which are managed by the table game management server **1**A.

As shown in FIG. **3**, the slot machine **4**S includes a cabinet **11**. In the cabinet **11**, the currency reading device **201**, a slot machine controller **300**, and the PTS terminal **700** are provided. Outside the cabinet **11**, the followings are provided: a game image display panel **141** which displays a game image, etc.; a control panel **30** which is provided with buttons, etc., for operating a game; and a bill entry **22** which includes an insertion slot **22***a* for receiving a banknote T from the outside. In other words, a banknote T is received into the currency reading device **201** through the insertion slot **22***a* of the bill entry **22**.

(Currency Reading Device **201**)

As shown in FIG. **3**, the currency reading device **201** is disposed in the cabinet **11** so that a banknote insertion slot **5** is identical to the insertion slot **22***a* of the bill entry **22**. In this way, a banknote T inserted from the insertion slot **22***a* of the bill entry **22** is introduced into the currency reading device **201**. In addition to that, the currency reading device **201** includes a banknote accommodation unit **202** which accommodates the received banknote T. The banknote accommodation unit **202** has a function as a safe, and is detachably attached to the currency reading device **201**.

In the currency reading device **201** of the present embodiment, not only a banknote T of PHP (peso) but also banknotes T of plural foreign currencies (USD, US dollar; JPY, Japanese yen; CNY, yuan; HKD, Hong Kong dollar; EUR, euro; MOP, Macanese pataca; AUD, Australian dollar) are available. PHP (peso) is set as a local currency.

As shown in FIG. **4**, a banknote conveyance mechanism **206** is provided inside the currency reading device **201**. The banknote conveyance mechanism **206** conveys a banknote T which is inserted from the insertion slot **22***a* of the bill entry **22**, to the banknote accommodation unit **202**. In addition to that, inside the currency reading device **201**, a control circuit board **200**A which controls motion of a driving device such as the banknote conveyance mechanism **206** is provided. On this control circuit board **200**A, a CPU (Control Processing Unit) **210**, a ROM (Read Only Memory) **212**, a RAM (Random Access Memory) **214**, and an I/O port **220** are mounted.

The CPU **210** receives detection signals, through the I/O port **220**, from sensors such as an insertion detection sensor **7**, a movable piece passing detection sensor **12**, a banknote reading sensor **8**, a discharge detection sensor **18**, a magnetic sensor **140**, and a pressing plate detection sensor **23**. The insertion detection sensor **7** detects a banknote T inserted into the banknote insertion slot **5**. The movable piece passing detection sensor **12** detects being passed through a predetermined position of the banknote conveyance mechanism **206**. The banknote reading sensor **8** reads information of the banknote T which is being conveyed. The discharge detection sensor **18** detects the banknote T being discharged into the banknote accommodation unit **202**. The magnetic sensor **140** detects whether banknotes T which are laminated and accustomed in the banknote accommodation unit **202** reach a predetermined number. The pressing plate detection sensor **23** can detect a position of a pressing plate which presses banknotes T in the banknote accommodation unit **202**. Based on these detection signals, the drive control of the banknote conveyance mechanism **206**, etc., is performed. To the I/O port **220**, a communication interface **91** is connected. The communication interface **91** is connected to a smart interface board **710** of the PTS terminal **700** so as to enable data communication with the PTS terminal **700**.

The insertion detection sensor **7** generates a detection signal when detecting a banknote T inserted into the banknote insertion slot **5**. While the insertion detection sensor **7** is an optical sensor such as a retro-reflective photo sensor, the insertion detection sensor **7** may be constituted by a mechanical sensor.

The movable piece passing detection sensor **12** generates a detection signal when detecting that a distal end of the banknote T has passed through the predetermined position of the banknote conveyance mechanism **206**, and is provided upstream of the banknote reading sensor **8**. This movable piece passing detection sensor **12** is also constituted by an optical sensor or a mechanical sensor, in the same manner as the insertion detection sensor **7**.

The banknote reading sensor **8** reads banknote information of the banknote T conveyed by the banknote conveyance mechanism **206**. In this regard, the banknote information which is read by the banknote reading sensor **8** is compared to reference data stored in the ROM **212**, and the followings are determined: which country or region a currency belongs to; the money type (amount of the banknote T); and whether the banknote T is valid.

The discharge detection sensor **18** detects that a rear end of the banknote T has passed through and that the banknote T has been discharged into the banknote accommodation unit **202**, and is provided immediately upstream of the banknote accommodation unit **202**. This discharge detection sensor **18** is also constituted by an optical sensor or a mechanical sensor in the same manner as the insertion detection sensor **7**.

In the ROM **212**, the following sets of data are stored: programs such as an actuation program of the banknote conveyance mechanism **206** and a verification program regarding the banknote T which is read by the banknote reading sensor **8**; and permanent data. The CPU **210** gen-

erates a control signal based on the programs stored in the ROM **212**, sends and receives signals to and from the banknote conveyance mechanism **206** and the like through the I/O port **220**, and performs the drive control of the banknote conveyance mechanism **206** and the like. The ROM **212** further stores, regarding the inserted banknote T, reference data used for determining which country or region a currency belongs to, the money type (amount of the banknote T), and the validity of the banknote T. For example, sets of data obtained from the entire print region of a valid banknote T (e.g., data regarding light and shade and data regarding transmitted light and reflected light when infrared light is applied to a valid banknote T) are stored. The RAM **214** stores data and a program used in operation of the CPU **210**.

(Slot Machine Controller **300**)

The slot machine controller **300** includes a game controller **302** which controls a process performed by the slot machine **4**S, and the communication interface **301** which enables data communication with the PTS terminal **700** (see FIG. **4**). Although not illustrated, the game controller **302** includes a CPU, a ROM, a RAM, and an I/O port to which members such as the control panel **30** and the game image display panel **141** are connected. The slot machine controller **300** sends, through the communication interface **301**, a game result and game information such as the content of a bet betted on a game to the slot machine management server **1** through the PTS terminal **700** as a game information signal. In this regard, game information based on the game information signal received by the slot machine management server **1** is managed in the slot machine management server **1**.

To be more specific, the game controller **302** runs a slot game which awards a payout based on a betted gaming value and a game result. In this slot game, twenty symbols determined randomly are displayed on a symbol display area which is formed of twenty areas forming a matrix with, e.g., five columns and four rows. In addition to that, a payout is awarded based on a displayed symbol combination (game result) and a betted gaming value.

(PTS Terminal **700**)

As shown in FIG. **3**, the PTS terminal **700** is inserted into the cabinet **11** from the front surface side of the slot machine **4**S, and embedded in the slot machine **4**S so as to form a part of the front surface of the cabinet **11**. The PTS terminal **700** includes an LCD (identical to the display), a touch panel, a human detection camera, a microphone, a speaker, a card insertion slot, the smart interface board **710**, and a storage unit **711**.

The LCD displays an effect image used for an effect in a game, information when there is a payout as a game result, and a current exchange rate of each foreign currency. The touch panel is provided on the LCD to cause the PTS terminal **700** to function as an input device capable of receiving input from the outside. The human detection camera detects the presence of a player by a camera function. The microphone is used for allowing a player to participate in a game through input of player's voice and for authenticating a player by voice recognition. The speaker performs effects in a game by sound, and outputs various types of notification sound. The card insertion slot has a mechanism which allows an IC card such as a member card of a player of a game to be inserted and removed. The smart interface board **710** connected to the above-described components is a control board configured to control the components, and controls sending and receiving of signals to and from the outside. The storage unit **711** (ROM and RAM) is connected to the smart interface board **710**, and makes it possible to store various information such as an exchange rate of each foreign currency.

The PTS terminal **700** is arranged to perform mediation in data communications between devices in the slot machine management server **1**, the currency reading device **201**, and the slot machine controller **300**. Specifically, the currency reading device **201** sends the banknote information of a banknote T, which is received from the bill entry **22**, to the PTS terminal **700**. The PTS terminal **700** associates the received banknote information with area information showing where the slot machine **4**S belongs to, and sends the associated information to the slot machine management server **1** and the casino management system **2** via the slot machine management server **1**. As described above, the PTS terminal **700** performs mediation of data communication from the currency reading device **201** to the slot machine management server **1** and data communication from the currency reading device **201** to the slot machine controller **300**.

The PTS terminal **700** calculates and exchanges (replaces) a foreign currency received by the currency reading device **201** into a local currency (PHP, peso) based on information of an exchange rate which is obtained from the casino management system **2**. The LCD of the PTS terminal **700** makes it possible to display a current exchange rate of a currency of each country. In this regard, the LCD displays the timing of update (changing) of the exchange rate (for example, the LCD displays update time (AM 6:00) of the exchange rate).

The currency reading device **201** and the PTS terminal **700** are provided in the slot machine **4**S as described above, and form the currency handling system **100** which is connected with the management server **1** through the network **3**.

(Process Related to Settings for Offline-Available Currencies)

The following will describe a process in which an administrator of the slot machine management system **1** sets (sets offline-unavailable money types) money types (banknotes T) which are available in the slot machine **4**S (currency reading device **201**) even when a communication error (offline) occurs between the slot machine management server **1** or casino management system **2** and each slot machine **4**S (PTS terminal **700**), with reference to FIG. **5** to FIG. **12**. It should be noted that this process may be performed in the casino management system **2**.

To begin with, the administrator of the slot machine management server **1** performs settings for offline-available currencies by using currency management software from the input unit **104** of the slot machine management server **1**. To be more specific, as shown in FIG. **11**, the administrator causes the shift to an offline-available money type selection screen **511** displayed on the display unit **105**. In the present embodiment, because the latest exchange rate stored in the storage unit **402** of the casino management system **2** is not referable in the offline state (in a state in which a communication error occurs between the slot machine management server **1** or casino management system **2** and the slot machine **4**S), a foreign currency is not available in the slot machine **4**S in principle (details thereof will be described later). The usage of a foreign currency is limited as such because a disadvantage may be given to a player or an owner of gaming machines due to a variation of the exchange rate in the offline state. However, the disadvantage is not related to a local currency (peso in the present embodiment) which is not affected by the variation of the exchange rate. In addition to that, the administrator may determine that con-

venience is secured with the minimum disadvantage for a player or an owner of gaming machines due to the variation of the exchange rate, not by limiting usage of all foreign currencies but by limiting usage of only expensive money types in the offline state. Furthermore, even if the management server **1** and the slot machine **4**S are in the offline state, the administrator may determine not to limit the usage of a foreign currency, depending on the time when the offline state occurs (e.g., immediately after the update of the exchange rate).

In the present embodiment, the administrator is able to select offline-available money types (banknotes T) related to the money types of a currency which has been selected to be available on an available currency selection screen **508**, on the offline-available money type selection screen **511** of FIG. **11** (i.e., offline-unavailable money types related to the money types of currencies which have not been selected to be available on the available currency selection screen **508** are also set). In this regard, a communication error includes a state in which data is unable to be sent or received, a state in which sending data or receiving data is stopped, and a state in which data is intermittently sent or received between the slot machine management server **1** or casino management system **2** and the slot machine **4**S (PTS terminal **700** and currency reading device **201**, etc.). In other words, a communication error includes all states such as a state in which information of the exchange rate is not accessible and a state in which a foreign currency is not exchangeable into a local currency in the slot machine **4**S. Therefore, the communication error also includes a state in which the latest exchange rate is not acquirable because of a communication error between the slot machine management server **1** and the casino management system **2** or outside even if data is able to be sent or received between the slot machine management server **1** and the slot machine **4**S.

For example, all banknotes of USD (US dollar), JPY (Japanese yen), CNY (yuan), and HKD (Hong Kong Dollar) which are not selected as shown in FIG. **11** are set to be unavailable, and thus are set to be unavailable in the offline state in each slot machine **4**S. Meanwhile, a local currency (PHP, peso) selected by the administrator is set to be available even in the offline state in each slot machine **4**S. In the present embodiment, all banknotes of a local currency (PHP, peso) which is not affected by the variation of the exchange rate are selected to be available even in the offline state in each slot machine **4**S.

The administrator then selects a Next button **505**, and a confirmation screen (not illustrated) is displayed. After confirmation is accepted, the settings for offline-available currencies are completed. In the settings for offline-available currencies, for example, information of areas in which the settings for offline-available currencies are updated, information of currencies which are set to be available or unavailable, and information of money types which are set to be available or unavailable are stored in the storage unit **102** and then sent to slot machines **4**S placed at the areas.

The offline-available money type selection screen **511** (see FIG. **11**) displays an exchange rate button **506** which causes the shift to an exchange rate screen **510** (see FIG. **12**) showing the current exchange rate of each currency. The offline-available money type selection screen **511** also displays a Back button **503** which enables to go back to a prior page.

(Available Currency Management Process)

The following will describe an available currency management process performed in the slot machine management server **1**, with reference to a flowchart of FIG. **5**.

To begin with, the above-described settings for offline-available currencies are performed by the input unit **104** (S**101**: input process). Subsequently, the center controller **101** determines whether the settings for offline-available currencies are completed in the input process (S**102**). If the settings for offline-available currencies have not been completed (NO in S**102**), completion of the settings for offline-available currencies is waited.

Meanwhile, if the settings for offline-available currencies have been completed (YES in S**102**), the center controller **101** performs an available currency settings updating process (S**103**). In this available currency settings updating process, the content of the settings for offline-available currencies which has been input in the step S**101** is sent to the PTS terminal **700** of the slot machine **4**S, and then updated and stored in the storage unit **711** of the PTS terminal **700** which has received the content. For example, all banknotes of USD (US dollar), JPY (Japanese yen), CNY (yuan), and HKD (Hong Kong Dollar) which are not selected on the offline-available money type selection screen **511** of FIG. **11** are set to be unavailable, and thus are set to be unavailable in the offline state in the currency reading device **201** of the slot machine **4**S. Meanwhile, all banknotes of a local currency (PHP, peso) which are selected on the offline-available money type selection screen **511** are set to be available even in the offline state in the currency reading device **201** of the slot machine **4**S. In the present embodiment, all banknotes of a local currency (PHP, peso) which is not affected by the variation of the exchange rate are selected, and thus are set to be available even in the offline state in each slot machine **4**S. Then, this process is terminated.

Regarding the content of the settings for offline-available currencies which has been input in the step S**101**, it is possible to perform the limit of usage of only a predetermined money type of a predetermined currency in this available currency settings updating process. For example, assume that a $1000 banknote and a $500 banknote and a $200 banknote and a $100 banknote and a $50 banknote and a $20 banknote of PHP (peso), a $50 banknote and a $20 banknote and a $10 banknote of USD (US dollar), a \5000 banknote and a \1000 banknote of JPY (Japanese yen), a \50 banknote and a \20 banknote and a \10 banknote of CNY (yuan), and a $100 banknote and a $50 banknote and a $20 banknote and a $10 banknote of HKD (Hong Kong dollar) are selected on the offline-available money type selection screen **511**. In this case, these banknotes are set to be available even in the offline state. Meanwhile, a $100 banknote of USD (US dollar), a \10000 banknote of JPY (Japanese yen), a \100 banknote of CNY (yuan), and a $500 banknote of HKD (Hong Kong dollar) are not selected, and thus are set to be unavailable in the offline state.

When the settings for offline-available currencies are updated in the PTS terminal **700** in the step S**103**, information of the settings for offline-available currencies is displayable on the LCD of the PTS terminal **700** or on a display device of the slot machine **4**S.

(Banknote Receiving Process)

The following will describe a banknote receiving process which is performed by a CPU **210** of a control circuit board **200**A when a currency reading device **201** mounted at a slot machine **4**S receives a banknote T from a bill entry **22**, with reference to a flowchart of FIG. **6**. In the slot machine **4**S, the settings for offline-available currencies are updated in the available currency management process described above.

To begin with, the CPU **210** determines whether a valid banknote T is inserted from the bill entry **22** (S**201**). If a valid banknote T has not been inserted (NO in S**201**), the invalid banknote T is discharged. Then, the CPU **210** performs the step S**201** again and waits for the insertion of a valid banknote T.

Meanwhile, if a valid banknote T has been inserted (YES in S**201**), the CPU **210** obtains banknote information of the inserted banknote T based on a signal from the banknote reading sensor **8** (S**202**). To be more specific, the followings are obtained as the banknote information: a kind of the inserted banknote T (currency such as PHP, peso; USD, US dollar; JPY, Japanese Yen; CNY, yuan; HKD, Hong Kong dollar; EUR, euro; MOP, Macanese pataca; AUD, Australian dollar); and a money type of the inserted banknote T (e.g., monetary amount such as $100 banknote, $50 banknote, $20 banknote, and $10 banknote, etc., in USD; US dollar).

Subsequently, the CPU **210** sends an online checking signal and the banknote information which has been acquired in the step S**202** to a PTS terminal **700** (S**203**). The online checking signal is used for checking whether the slot machine management server **1** or casino management system **2** and the slot machine **4**S (PTS terminal **700**) are currently in the online state in which communication is enabled.

Assume that the PTS terminal **700** receives an online checking signal. In this case, when it is determined that the slot machine management server **1** or casino management system **2** and the PTS terminal **700** are currently in the online state in which communication is enabled or when the inserted banknote T is determined as one of the offline-available currencies based on the banknote information which has been acquired in the step S**202** in the PTS terminal **700**, a use permission signal is sent to the PTS terminal **700** in return. The details are described later. Meanwhile, when it is determined that the slot machine management server **1** or casino management system **2** and the PTS terminal **700** are currently in the offline state and cannot communicate with each other and it is determined that the inserted banknote T is not one of the offline-available currencies based on the banknote information which has been acquired in the step **202**, the PTS terminal **700** sends a non-permission signal to the PTS terminal **700** in return.

Subsequently, the CPU **210** determines whether a use permission signal sent from the PTS terminal **700** is received (S**204**). If a use permission signal has not been received (NO in S**204**), the CPU **210** determines whether a non-permission signal sent from the PTS terminal **700** is received (S**205**). In addition to that, if a non-permission signal has not been received (NO in S**205**), the step S**204** is performed again.

Meanwhile, if a non-permission signal has been received (YES in S**205**), the inserted banknote T is discharged from the bill entry **22** (S**206**: discharge process). In other words, when it is determined that the slot machine management server **1** or casino management system **2** and the PTS terminal **700** are in the offline state and cannot communicate with each other and it is determined that a banknote of one of unavailable foreign currencies which have not been selected on the offline-available money type selection screen **511** of FIG. **11**, i.e., one of banknotes of USD (US dollar), JPY (Japanese yen), CNY (yuan), and HKD (Hong Kong dollar) is inserted, the inserted banknote is determined as a currency unavailable in the offline state and the inserted banknote, i.e., every inserted banknote of USD (US dollar), JPY (Japanese yen), CNY (yuan), and HKD (Hong Kong dollar) is discharged from the bill entry **22**. Because of this, the usage of every foreign currency set as a currency unavailable in the offline state is limited (stopped) in such a way that an unavailable foreign currency is discharged even if it is inserted from the bill entry **22**. Then, after the discharge process of S**206**, the routine goes back to S**201**.

If the use permission signal has been received in the step S**204** (YES in S**204**), the CPU **210** conveys the inserted banknote T to a banknote accommodation unit **202** and stores the inserted banknote T (S**207**). For example, when all banknotes of a local currency (PHP, peso) have been selected and set as money types of the offline-available currency on the offline-available money type selection screen **511** of FIG. **11**, every inserted banknote of a local currency (PHP, peso) is determined as one of money types of the offline-available currency, and the inserted banknote of a local currency (PHP, peso) is conveyed to the banknote accommodation unit **202** and then stored.

Subsequently, the CPU **210** sends the banknote information which has been obtained in the step S**202** to the PTS terminal **700** (S**208**).

By the above-described structure, when a communication error occurs between a currency handling system **100** (currency reading device **201** and PTS terminal **700**) and the slot machine management server **1** or casino management system **2**, a process which limits the usage of a foreign currency (e.g., USD; dollar) but allows the usage of a local currency (PHP, peso) is performed in the currency reading device **201**. Because of this, when the casino management system **2** is in the offline state so as to be unable to manage and monitor a foreign currency, a risk of dealing with a foreign currency at a time of a communication error is decreased by limiting the usage of a foreign currency (USD, dollar) and not limiting the usage of a local currency (PHP, peso).

(Online Checking Process)

An online checking process will be described with a flowchart of FIG. **7**. The online checking process is performed by a smart interface board **710** of the PTS terminal **700** when the PTS terminal **700** receives the online checking signal which has been sent from the currency reading device **201** in the step **203** of the above-described banknote receiving process.

To begin with, the smart interface board **710** determines whether the online checking signal which has been sent from the currency reading device **201** in the step S**203** of the above-described banknote receiving process is received (S**301**). If the online checking signal has not been received (NO in S**301**), supply of the signal is waited.

Meanwhile, if the online checking signal has been received (YES in S**301**), the smart interface board **710** determines whether the slot machine management server **1** or casino management system **2** and the PTS terminal **700** are currently in the online state in which communication is enabled (S**302**). Subsequently, if it has been determined that they are in the online state (YES in S**302**), the smart interface board **710** sends a use permission signal to the currency reading device **201** (S**305**). Then, this process ends.

Meanwhile, if it is determined that they are not in the online state (i.e., if it has been determined that they are in the offline state; No in S**302**), the smart interface board **710** determines whether the content of the banknote information which has been acquired in the step S**202** is one of the offline-available currencies based on the content which has been updated in the available currency settings updating process of S**103** (S**303**).

Then, if it is determined that the content of the banknote information which has been acquired in the step S**202** is not one of the offline-available currencies (NO in S**303**), the

smart interface board **710** sends a non-permission signal to the currency reading device **201** (S**304**). For example, when the content of the banknote information which has been acquired in the step **202** is a banknote of one of the unavailable currencies which have not been selected on the offline-available money type selection screen **511** of FIG. **11**, i.e., is one of banknotes of USD (US dollar), JPY (Japanese yen), CNY (yuan), and HKD (Hong Kong Dollar), etc., the inserted banknote is determined as a currency unavailable in the offline state and a non-permission signal is sent to the currency reading device **201**. This process is terminated in the step **304**.

Meanwhile, if the content of the banknote information which has been acquired in the step S**202** has been determined as one of the offline-available currencies (YES in S**303**), the smart interface board **710** sends a use permission signal to the currency reading device **201** (S**305**). For example, when the content of the banknote information which has been acquired in the step **202** is a local currency (PHP, peso) which has been selected to be available on the offline-available money type selection screen **511** of FIG. **11**, the inserted banknote is determined as a currency available in the offline state and a use permission signal is sent to the currency reading device **201**. This process is terminated by the step **305**.

(Banknote Information Receiving Process)

A banknote information receiving process will be described with reference to a flowchart of FIG. **8**. The banknote information receiving process is performed by the smart interface board **710** when the PTS terminal **700** receives the banknote information which has been sent from the currency reading device **201** in the step S**208** of the banknote receiving process described above.

To begin with, the smart interface board **710** determines whether the banknote information which has been sent from the currency reading device **201** is received (S**401**). If the banknote information has not been received (NO in S**401**), supply of the banknote information is waited.

Meanwhile, if the banknote information has been received (YES in S**401**), the smart interface board **710** determines whether a kind of a banknote T which is read from the banknote information is a foreign currency, i.e., whether it is one of currencies except PHP (peso) of a local currency (S**402**). In the present embodiment, USD (US dollar), JPY (Japanese yen), CNY (yuan), and HKD (Hong Kong dollar), etc., are foreign currencies.

If information indicating the kind of the banknote T which is read from the banknote information has been determined as one of foreign currencies (YES in S**402**), the smart interface board **710** performs an exchange rate obtain process (S**403**). In this exchange rate obtain process, the casino management system **2** is accessed (asked) through the slot machine management server **1** from the PTS terminal **700**, and an exchange rate is obtained. The exchange rate is stored in the storage unit **402** of the casino management system **2**, and corresponds to the foreign currency which is the type read from the banknote information. For example, when the foreign currency which is the type read from the banknote information is US dollar, an exchange rate is obtained. The exchange rate ("USD/PHP") regulates an exchange ratio which is used for exchanging US dollar of a foreign currency into PHP (peso) of a local currency. In this regard, the obtained exchange rate is stored in the storage unit **711**.

Subsequently, the smart interface board **710** calculates and exchanges (replaces) a money type (monetary amount) of the foreign currency into a monetary amount of a local currency (PHP, peso) with reference to the exchange rate which has been obtained in the step S**403** (S**404**). In this regard, the foreign currency is the type read from the banknote information. When it is currently in the offline state, information indicating a kind of the banknote T which is read from the banknote information is a foreign currency, and the currency is set as one of the offline-available currencies, the exchange rate currently stored in the storage unit **711** is referred to, without accessing the casino management system **2** (because it is unable to access the system because of the offline state).

In this step, the exchange rate of a currency of each country which is stored in the storage unit **402** of the casino management system **2** is an exchange ratio from a foreign currency which is available in the gaming machine **4** (e.g., slot machine **4**S which is managed by the slot machine management server **1**, and baccarat game table **4**B and roulette game table **4**R which are managed by the table game management server **1**A) provided in the gaming facility **15** to a local currency (PHP, peso), and is updated by manual input from the input unit **404** at every predetermined time. The manual input is made by the person in charge of the casino management system **2** who has obtained information of the exchange rate from the outside. In the present embodiment, at every predetermined time (e.g., AM 6:00), the person in charge of the casino management system **2** grasps the latest information of the exchange rate of each foreign currency and manually updates the exchange rate of a currency of each country which is stored in the storage unit **402**. In this regard, the update of the exchange rate may be performed at a wide variety of timing in accordance with a kind of the currency. In the present embodiment, the update of the exchange rate in the casino management system **2** is manually performed. Alternatively, the exchange rate in the casino management system **2** may be automatically updated by automatically obtaining exchange rates from the outside. Alternatively, instead of the predetermined time, the exchange rate may be adjusted to an exchange rate which varies in real time. Information of the exchange rate is sent to a PTS terminal **700** of each slot machine **4**S through the slot machine management server **1**. Because of this, a PTS terminal **700** which has obtained the exchange rate is able to display a current exchange rate of a currency of each country onto an LCD.

In the step S**404**, for example, when an exchange rate "USD/PHP" obtained from the casino management system **2** is "53.100" (one US dollar is exchanged into 53.100 pesos) and a money type (monetary amount) of a foreign currency is a $10 banknote of USD, it is calculated and exchanged into 531 pesos of a local currency. In this regard, the foreign currency is the type read from the banknote information.

Meanwhile, if it is determined that the kind of the banknote T which has been read from the banknote information in the step S**402** is not one of foreign currencies (i.e., determined as PHP, peso, of local currency; NO in S**402**), or after the step S**404**, the smart interface board **710** performs a credit information signal sending process (S**405**). In this credit information signal sending process, when the kind of the banknote T which has been read from the banknote information in the step S**402** is PHP (peso) of a local currency, a monetary amount of the money type is sent to the slot machine controller **300** as a credit information signal. For example, when the kind of the banknote T which has been read from the banknote information in the step S**402** is 500 pesos of a local currency, the 500 pesos are sent to the slot machine controller **300** as a credit information signal. When a foreign currency has been calculated and exchanged into a local currency, i.e., into PHP (peso) in the step S**404**,

the exchanged monetary amount of the local currency is sent to the slot machine controller **300** as a credit information signal. For example, when a $10 banknote of USD has been calculated and exchanged into 531 pesos of a local currency in the step **S404**, the 531 pesos are sent to the slot machine controller **300** as a credit information signal. After that, the step **S401** is performed again.

(Slot Game Running Process)

A flowchart of a slot game running process will be described with reference to FIG. **9**. The slot game running process is performed by the game controller **302** of the slot machine controller **300** of the slot machine **4**S.

To begin with, the game controller **302** determines whether a credit information signal is received from the PTS terminal **700** (S**501**). If a credit information signal has been received (YES in S**501**), the game controller **302** adds a monetary amount (PHP, peso, of local currency) based on the credit information signal to an owned credit counter of a RAM (S**502**). The owned credit counter of the RAM shows a monetary amount which is owned by a player.

After the step S**502**, or if a credit information signal has not been received (NO in S**501**), the game controller **302** performs a game process (S**503**). In this game process, a slot game is performed by a player. The slot game awards a payout based on a betted monetary amount (amount which is betted from the owned credit counter) and a game result. In this slot game, twenty symbols randomly determined are displayed on a symbol display area which is formed of twenty areas forming a matrix with, e.g., five columns and four rows. In addition to that, a payout is awarded based on a displayed symbol combination (game result) and a betted monetary amount.

The awarded payout is added to the owned credit counter (S**504**). In this regard, e.g., information based on a game result is sent to the slot machine management server **1** through the PTS terminal **700**, and managed in the slot machine management server **1**.

(Exchange Rate Updating Process)

An exchange rate updating process will be described with reference to FIG. **10**. The exchange rate updating process is performed in the PTS terminal **700** in order to display the current exchange rate of a currency of each country onto an LCD of the PTS terminal **700**, at the time of the update of the exchange rate stored in the storage unit **711**.

To begin with, the smart interface board **710** determines whether the casino management system **2** and the PTS terminal **700** are in the online state in which communication is enabled (S**601**). If it is determined that they are not in the online state (NO in S**601**), that is, they are in the offline state, the smart interface board **710** performs an exchange rate non-displaying process (S**602**). In this exchange rate non-displaying process, the current exchange rate of a currency of each country which is displayed on the LCD is hidden. For example, when the exchange rate is currently displayed, the exchange rate is hidden. For another example, in a case in which the exchange rate is not currently displayed, a message is displayed. The message indicates that the exchange rate is currently unable to be displayed.

Subsequently, the smart interface board **710** determines whether a predetermined time (one minute in the present embodiment) elapses since the occurrence of the offline state (S**603**). If the predetermined time has not elapsed since the occurrence of the offline state (NO in S**603**), the process is on standby until the elapse of the predetermined time from the occurrence of the offline state. Meanwhile, if the predetermined time has elapsed since the occurrence of the offline state (YES in S**603**), the step S**601** is performed again.

If it has been determined that the online state has occurred in the step S**601** (YES in S**601**), the smart interface board **710** determines whether the exchange rate stored in the storage unit **711** is updated within the last twenty four hours (S**604**). If the exchange rate stored in the storage unit **711** has not been updated within the last twenty four hours (NO in S**604**), the smart interface board **710** accesses the casino management system **2**, acquires information of the latest exchange rate, and then updates the exchange rate stored in the storage unit **711** to the latest exchange rate (S**605**). In this regard, the update of the exchange rate is performed at a variety of timing in accordance with a kind of currency. Alternatively, the exchange rate may be adjusted to an exchange rate which moves in real time.

Meanwhile, if the exchange rate stored in the storage unit **711** has been updated within the last twenty four hours in the step S**604** (YES in S**604**), or after the step S**605**, the smart interface board **710** performs an exchange rate displaying process (S**606**). In this exchange rate displaying process, the exchange rate stored in the storage unit **711** is referred, and the current exchange rate of a currency of each country is able to be displayed on the LCD. For example, when the exchange rate is hidden, the exchange rate or a message is displayed. The message indicates that the exchange rate is currently displayable. After the step S**606**, the routine goes back to the step S**601**.

By the above-described structure, when information of the exchange rate is not acquirable because of a communication error between the currency handling system **100** (currency reading device **201** and PTS terminal **700**) and the slot machine management server **1** or casino management system **2**, a process which limits (hides) the display of the exchange rate on the LCD of the PTS terminal **700** is performed. Because of this, when the offline state occurs so that the casino management system **2** is unable to manage and monitor the exchange rate of each foreign currency, it is possible to inform that the usage of each foreign currency is limited.

When the communication error is recovered (the online state occurs after the offline state) after a communication error occurs between the currency handling system **100** (currency reading device **201** and PTS terminal **700**) and the slot machine management server **1** or casino management system **2**, the exchange rate in the storage unit **711** is updated. Because of this, when the online state occurs again after the occurrence of the offline state in which the exchange rate of each foreign currency is unable to be managed and monitored in the casino management system **2**, the exchange rate which is necessary to use (exchange) each foreign currency is immediately updated. As a result, it is possible to immediately inform that the limit of the usage of each foreign currency is removed.

Other Embodiments

In the present embodiment described above, the currency reading device **201** is embedded in the gaming machine **4** such as the slot machine **4**S. However, the disclosure is not limited to this. The currency reading device **201** may be a terminal device connected to an external apparatus such as a money exchanger, a vending machine, and a ticket machine. Alternatively, the currency reading device **201** may not be embedded in such a terminal device. While in the present embodiment the currency reading device **201** is provided for each gaming machine **4**, one currency reading device **201** may be provided for plural gaming machines **4**.

In the present embodiment described above, the exchange rate is managed in the casino management system **2**. Alternatively, the exchange rate may be managed in the slot machine management server **1**, and a role of exchanging a foreign currency into a local currency may be played by the slot machine management server **1** or casino management system **2**.

The slot machine management server **1** and the casino management system **2** play a role of the management server of the present invention. Alternatively, one server may play a role of the management server of the present invention.

Embodiments of the present invention thus described above solely serve as specific examples of the present invention, and are not to limit the scope of the present invention. The specific structures and the like are suitably modifiable. Further, the effects described in the embodiment of the present invention described in the above embodiment are no more than examples of preferable effects brought about by the present invention, and the effects of the present invention are not limited to those described hereinabove.

REFERENCE SIGNS LIST

1 management server
2 casino management system
3 network
4 gaming machine
4S slot machine
100 currency handling system
101 center controller
102 storage unit
103 communication interface
104 input unit
105 display unit
201 currency reading device
210 CPU
214 RAM
300 slot machine controller
700 PTS terminal
710 smart interface board
711 storage unit
T banknote

The invention claimed is:

1. A currency handling system comprising:

a currency reading device including:

an insertion slot capable of receiving a banknote of a local currency and of a foreign currency, and one or more of a card, or a ticket;

a conveyance mechanism that transports the received banknote, card, or ticket;

a reading sensor that reads the received banknote, card, or ticket conveyed by the conveyance mechanism; and,

an accommodation unit, that stores a validated banknote conveyed by the conveyance mechanism; and,

a first central processing unit in communication with a first computer readable memory storing banknote reference data, the first central processing unit is programmed to determine whether the received banknote is valid, and whether the received banknote is of the local currency or of a foreign currency, and

a management server including a second central processing unit and a second computer readable memory,

the first central processing unit is further programmed to:

determine that a received banknote is valid;

transmit a checking signal from the currency reading device to the management server;

determine whether a communication error exists between the currency reading device and the management server;

wherein, when the first central processing unit determines that a communication error exists between the currency reading device and the management server, and the received and validated banknote is of a first foreign currency, the first central processing unit is further programmed to discharge the received and validated banknote of the first foreign currency from the currency reading device;

wherein, when the first central processing unit determines that a communication error exists between the currency reading device and the management server, and the received and validated banknote is of a second foreign currency, the first central processing unit is further programmed to convey the received and validated banknote of the second foreign currency to the accommodation unit;

wherein, when the first central processing unit determines that a communication error exists between the currency reading device and the management server, and the received and validated banknote is of the local currency, the first central processing unit is further programmed to convey the received and validated banknote of the local currency to the accommodation unit; and,

wherein, when the first central processing unit determines that a communication error does not exist between the currency reading device and the management server, and the received and validated banknote is one of the first foreign currency or the second foreign currency, the first central processing unit is further programmed to convey the received and validated banknote of the one of the first foreign currency or the second foreign currency to the accommodation unit.

2. The currency handling system according to claim **1**, further comprising:

a player tracking system (PTS) including:

a third central processing unit;

a third computer readable memory that receives and stores exchange rate data received from the management server; and,

a display device that displays the exchange rate data,

wherein, the third central processing unit is programmed to perform processes of:

(a) updating the exchange rate data stored in the third computer readable memory when the exchange rate data is received from the management server;

(b) referring to the exchange rate data stored in the third computer readable memory and displaying the exchange rate data on the display unit; and

(c) limiting display of the exchange rate data on the display unit when a communication error occurs between one or more of the management server, the player tracking system (PTS), and the currency reading device.

3. The currency handling system according to claim **2**, wherein,

when a communication error occurs between one or more of the management server, the player tracking system (PTS), and the currency reading device, and the communication error is subsequently rectified, upon the communication error being rectified the third central processing unit is further programmed to communicate

with the management server to cause the management server to execute a process of updating the exchange rate data stored in the third computer readable memory.

4. The currency handling system according to claim **3**, wherein, the third central processing unit is programmed to perform processes of:

limiting usage of a predetermined money type of a predetermined foreign currency in the currency reading device in a case in which an error occurs in communication with the management server.

5. The currency handling system of claim **2**, wherein when the first central processing unit determines that a communication error exists between the currency reading device and the management server, and the received and validated banknote is of the first foreign currency, the first central processing unit is further programmed to only discharge the received and validated banknote of the first foreign currency from the currency reading device when the exchange rate data stored in the third computer readable memory has not been updated after a predetermined time.

6. A currency handling system comprising:

a currency reading device including:

an insertion slot capable of receiving a banknote of a local currency and of a foreign currency, and one or more of a card, or a ticket;

a conveyance mechanism that transports the received banknote, card, or ticket;

a reading sensor that reads the received banknote, card, or ticket conveyed by the conveyance mechanism; and,

an accommodation unit, that stores a validated banknote conveyed by the conveyance mechanism; and,

a first central processing unit in communication with a first computer readable memory storing banknote, card, and ticket reference data, the first central processing unit is programmed to determine whether the received banknote, card, or ticket is valid, and whether the received banknote, card, or ticket includes an amount denominated in the local currency or of a foreign currency, and

a management server including a second central processing unit and a second computer readable memory,

the first central processing unit is further programmed to:

determine that a received banknote, card, or ticket is valid;

transmit a checking signal from the currency reading device to the management server;

determine whether a communication error exists between the currency reading device and the management server;

wherein, when the first central processing unit determines that a communication error exists between the currency reading device and the management server, and the received and validated banknote, card, or ticket includes an amount denominated in a first foreign currency, the first central processing unit is further programmed to discharge the received and validated banknote, card, or ticket of the first foreign currency from the currency reading device;

wherein, when the first central processing unit determines that a communication error exists between the currency reading device and the management server, and the received and validated banknote, card, or ticket includes an amount denominated in a second foreign currency, the first central processing unit is further programmed to retain the received and validated banknote, card, or ticket in the currency reading device and/or convey the received and validated banknote, card, or ticket to the accommodation unit;

wherein, when the first central processing unit determines that a communication error exists between the currency reading device and the management server, and the received and validated banknote, card, or ticket includes an amount denominated in the local currency, the first central processing unit is further programmed to retain the received and validated banknote, card, or ticket in the currency reading device and/or convey the received and validated banknote, card, or ticket to the accommodation unit; and,

wherein, when the first central processing unit determines that a communication error does not exist between the currency reading device and the management server, and the received and validated banknote, card, or ticket includes an amount denominated in the first foreign currency or the second foreign currency, the first central processing unit is further programmed to retain the received and validated banknote, card, or ticket in the currency reading device and/or convey the received and validated banknote, card, or ticket to the accommodation unit.

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